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WORLD PETROLEUM

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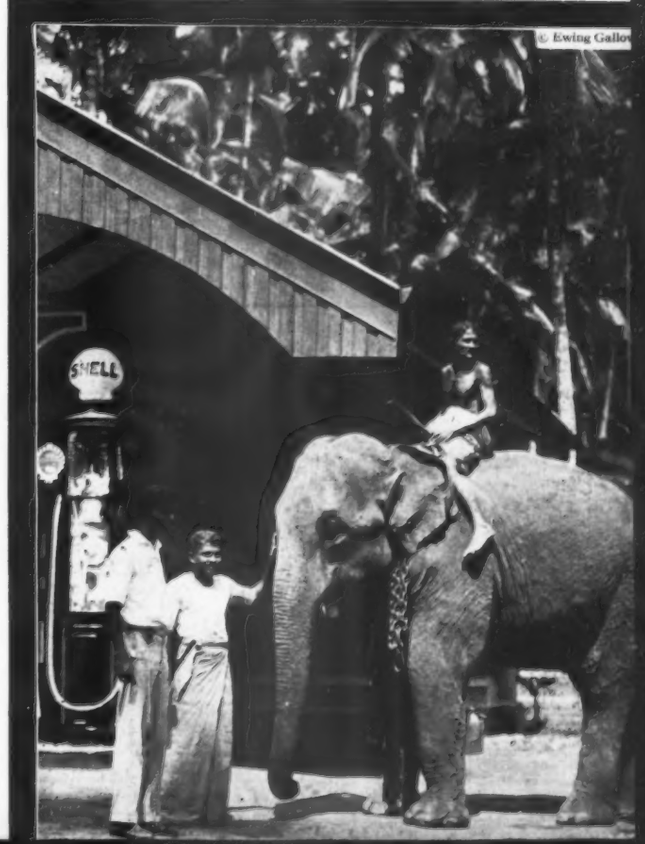

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MARCH
1934

WORLD PETROLEUM

VOLUME V — **Editor, E. W. Mayo** — NUMBER 3

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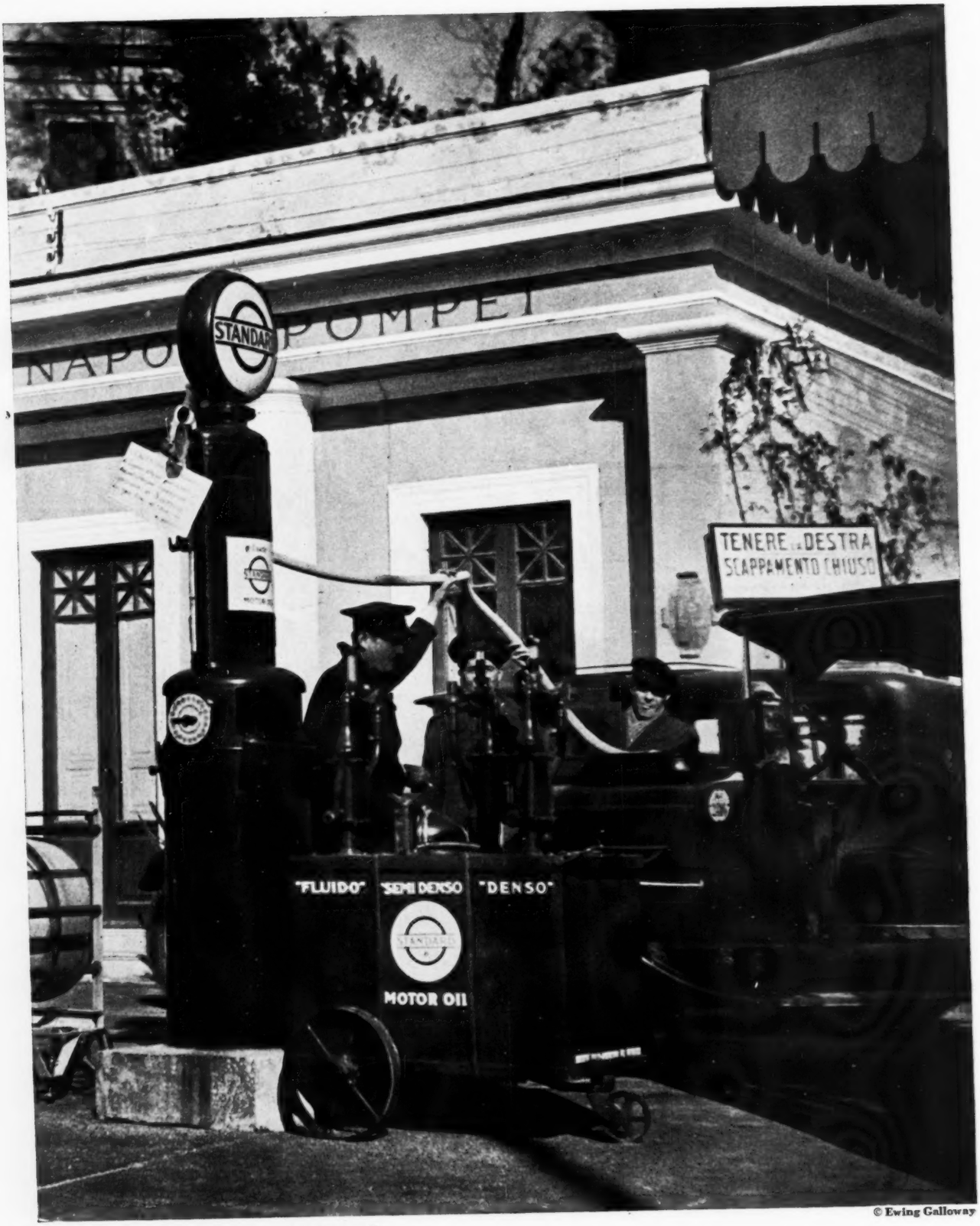

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Italy: on The Pompeii Road

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PETROLEUM

U. S. Control Challenged

OIL IS likely to provide the occasion for a clear-cut decision by the highest judicial authority in the United States as to the legality of the whole system of federal control of industry under the terms of the National Industrial Recovery Act. While the ruling made by Federal Judge Bryant at Sherman, Texas, on February 12 did not specifically pass upon the constitutionality of the act it did assert it could not be held binding upon companies that had not subscribed to the petroleum code and that were "not engaged in any transaction in or affecting interstate or foreign commerce." At the same time certain passages in the opinion indicate clearly enough that Judge Bryant considers the act invalid as constituting a delegation of legislative power. Even conceding its validity on this score he holds that the President or his agents can exercise no greater authority than that of Congress which is limited to transportation in interstate or foreign commerce.

If this view is to prevail it is obvious that it will leave the oil administration helpless to exercise any effective control over production since this takes place in all cases within the boundaries of a particular state. In the same court in which Judge Bryant pronounced his opinion a three judge tribunal of which he was a member had held that the action of the state railroad commission in fixing allowable production for wells within the state was valid and binding, though Judge Bryant himself dissented from this conclusion.

Authority of a state commission to determine production within a state is no secure basis for federal control for there is no certainty that the views of the state authorities will coincide with those of the federal representatives. The very order which the Texas court upheld in fact placed the state allowable much above the figure set by the national oil administrator. Unless Judge Bryant's ruling is reversed, therefore, control of oil production will revert to state authorities who in the past have not succeeded in placing an effective curb on output.

It is the announced intention of Oil Administrator Ickes to bring the issue raised by Judge Bryant's ruling before the United States Supreme Court as soon as possible for adjudication. While it is impossible to forecast the position that will be taken by that body the Court has held in past decisions affecting railway tariffs that the rates established by state commissions on intrastate traffic may be modified by the Interstate Commerce Commission because they indirectly affect interstate commerce. It is conceivable that the Justices may hold that the production of oil within a state similarly may affect the movement of oil across state borders. If they do not take this view the whole matter of petroleum regulation, so far as production is concerned, will be back where it was prior to last year before the NRA and the petroleum code came into existence.

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What Share Production?

ONE OF the difficulties that arises in attempting to regulate by code, as is now being done in the United States, each separate operation in the conduct of an industry like petroleum, is in allocating a fair margin of profit to each step in the process. Obviously in the case of a fully integrated oil company engaged in producing, transporting, refining and marketing the return obtained from each of these several operations is of minor consequence so long as the aggregate earnings provide a satisfactory return. Since there are individuals and companies, however, occupied with only one of these several branches of activity it becomes important, if prices and margins are to be fixed by governmental authority, to provide if possible a reasonable margin of profit for each. Consideration of this problem has given rise to difficulties in code construction and has led to much discussion as to the margin of profit that should be allowed to each successive factor in the production of oil and in its progress from the well to the consumer.

The tendency has been to recognize the claim of the producer to the largest single segment of the sum paid by the consumer for petroleum products. The reason for this is not far to seek. The producer assumes great risks. When he sinks a new well—it may be in a jungle thousands of miles from the point of consumption—he takes the chance that his entire investment in the enterprise may be a total loss. Even if he brings in a well of good flow depreciation charges must be high because its period of productivity and the life of the field in which it is located are both limited. Unless a relatively high return can be earned on the wells that produce abundantly capital and effort will not continue to be attracted to drilling and field development.

Transportation and refining are relatively stable operations. It is possible to determine accurately the investment required and the return that can be earned from operation on a specified

margin at capacity or any stated percentage of capacity. Marketing is in a different category. Here the competitive struggle is intensified and the need of meeting price cuts initiated by others makes returns uncertain. To hold their market positions distributors have made it their practice to protect retailers and to assume all the risks of declining crude quotations or of price wars. Distributors in many instances have carried on their marketing operations at a loss, or at best with no profit, and have depended upon other activities for their earnings.

In a stabilized marketing system there should be, of course, no necessity for this. With the over-expansion of distribution facilities restricted it becomes a relatively simple matter to determine the average volume of business that can be expected from each outlet and the cost of establishing and maintaining distributing facilities. Under such circumstances the marketer, like the refiner and the carrier, is entitled to a margin that will enable him to pay fair wages and earn a reasonable return on his invested capital. The producer, since the results of his efforts are uncertain and the very nature of his operations requires him to assume great risks, is entitled to the larger share of the total return. In the past this usually has been the rule and it seems proper that it should be so.

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Oil on Rails

SHORTENING by 24 hours the 56-hour railway journey from Chicago to the Pacific coast through the use of oil fuel with Diesel engines is an achievement of importance both to American railroads and to the petroleum industry, as it is bound to mean a general extension of the use of oil for rail transportation. So satisfied is the Union Pacific Railroad with the preliminary tests of its new Diesel-electric driven, three-car, streamline train, which runs at 90 m.p.h. normally and at 110 miles maximum speed, that the company has ordered two nine-car and one six-car train of the same type.

W. A. Harriman, chairman of the Union Pacific board, has expressed the view that all the railways in the United States will eventually have to adopt this new form of train. The smallest of these trains consumes about 240 lbs. of light fuel oil per hour at full load, and the largest approximately 480 lbs. General adoption of this form of power will bring substantial business to the oil companies, and at the same time will save the railways huge sums spent annually now in hauling coal used solely as fuel by steam locomotives. Credit is due Chas. F. Kettering of the General Motors Corporation, Geo. F. Codrington of the Winton Engine Company, R. A. Hunt of the Aluminum Company of America and the motive department of the Union Pacific Railroad for this latest achievement in railway engineering progress.

▼

Penalizing Success

IN THE welter of change and experiment at Washington old and discredited theories frequently present themselves as part of the new deal. As an example, some of the economic advisors in departments created under the emergency legislation of the past year have taken the stand that where price regulation prevails advertised products should sell for more than those that are not advertised or, to put it the other way 'round, that non-advertised goods should be allowed to undersell brands that are widely publicized.

The reasoning behind this conclusion is that advertising increases costs and, since each producer should be able to sell his merchandise at more than cost, the advertised brand should command—and if necessary be required to exact—a higher price.

The justification of the whole vast business of advertising is that it encourages consumer acceptance of advertised products and facilitates the task of salesmanship. By increasing the volume of business it enables overhead expense to be spread over a wider area so that unit costs actually are reduced not increased. If this were not true the whole great structure of merchandising publicity would have no substantial foundation and would have been abandoned long ago. Rather, it never could have come into existence.

If the management of a corporation spends $1,000,000 a year in advertising its products without increasing sales and net income its members should be indicted for defrauding the shareholders or at least should be summarily removed from control at the next annual meeting. While admittedly there is waste in advertising as there is in every department of industry it occupies not only a legitimate place in business but performs such an essential function in any enterprise depending upon the general public for support that many successful company executives devote a large share of their personal attention to this phase of the activities of their organizations. More of them might well do so.

In the case of petroleum the claim has been advanced that unbranded motor fuel or that sold under brands that are not advertised should be purveyed at lower prices than nationally known and advertised brands because the sellers do not have to support the expense of widespread publicity. Administrator Ickes evidently declines to accept this claim without some factual support. He takes the commonsense position that sellers of these products who can demonstrate that their costs actually are lower will be permitted to pass on such savings to the public.

The real reason why the sellers of petroleum products or other products not backed by advertising wish to undersell competing products that are broadly advertised is that only on this basis can they get business. Other things being equal the consumer will take and will demand the product that is well known and of demonstrated merit in preference to that which is unknown and therefore uncertain. If the government wishes to recognize and regularize this condition let it do so on the ground that sellers of non-advertised products are a special class to whom it is willing to extend exceptional treatment and protection and not attempt to bush the facts by penalizing the use of the most valuable tool that modern business has developed.

▼

Earnings to Shareholders

CONSOLIDATED Oil Corporation's action in adopting the policy of determining common share dividends by current earnings has received the favorable notice of financial commentators. It is recognized as essentially sound that payments to holders of common shares, who are the real owners of a business, should be governed by actual earnings rather than being established at a fixed rate. This is in accordance with the common practice of British stock companies.

The maintenance of a stable rate, which has been the more general practice among prosperous American companies, doubtless is due to a desire to avoid wide fluctuations in the market value of securities listed on the exchanges. It requires the building up of heavy profit and loss reserves which are not always in a form readily convertible to cash when earnings fail. Certainly the payment of dividends which more or less closely reflect the actual state of the company's business for the preceding six months or year is likely to have the effect of stimulating a close and healthy interest in its affairs among the shareholders.

The decision of the company to pass on to its shareholders practically all net earnings during the current year is a noteworthy contribution to the general cause of industrial recovery.

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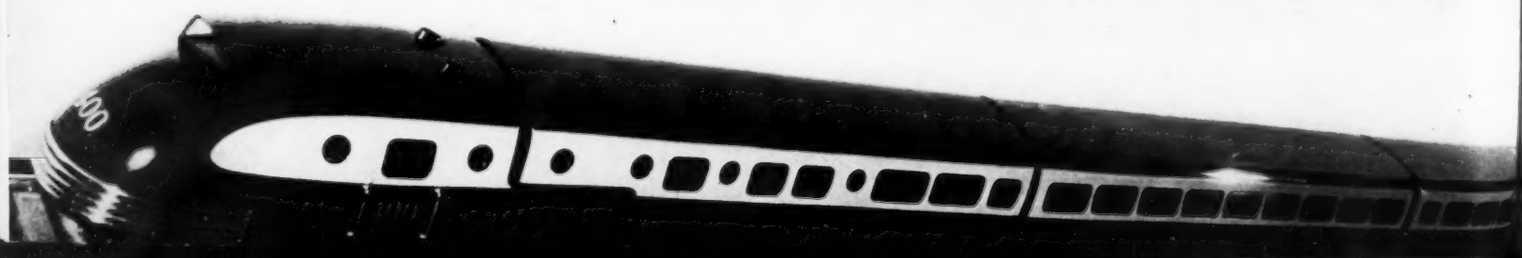

Italy Promotes Domestic Refining Industry

Duty Protection On Domestic Refined Oil Products Under New Petroleum Law Will Cause Early Construction Program of About 45,000 bbl. Per Day Capacity.

By T. Orchard Lisle.

INTERNATIONAL oil companies are studying with considerable interest the regulations governing the application of the new petroleum law in Italy, which are bound to cause changes in the operations of the industry in that country. This law was made by Royal Decree on November 2nd last, and was published in the Official Gazette of December 30th. Under the regulations of this law, which were issued on February 7th, and became effective immediately, all imports of crude oil will be free of customs duty, and will come under the close control of the government, as will all imports of refined products and residues, on which the tariff has been reduced.

The new law is definitely designed to give Italy a refining industry similar to that which has been established in France during the past few years. The Italian government has a potential interest in Iraq crude oil through the A. G. I. P., which owns a share in the Mosul Oil Fields Ltd.

All present indications are that refinery construction will commence in the very near future. Through its licensing authority the government intends to regulate both imports and refining to meet the national needs for petroleum products. It will not permit the construction of plants to a point where the total capacity will exceed consumption and invite destructive competition. Furthermore, companies with existing refining and distributing facilities will be given preference in permits for imports and the construction of new plants. In fact, everything tends to show that the government will carry out its policy with full regard to the rights and interests of established companies.

One important Italian company, the Societa Italo-Americana del Petrolio (S. I. A. P.), which is closely allied to the Jersey Standard, already is preparing plans for one or more refineries on the west coast of Italy, but is awaiting further study of the new regulations before actual construction can be started. There is no doubt that Italy's most powerful oil organization, the Azienda Generale Italiana Petroli, (A. G. I. P.) will expand its refining facilities, and it is to be presumed that the Nafta Societa Italiana Per Petroli Ed Affini, subsidiary of the Royal Dutch-Shell group, will build one or two plants. At least one other project is contemplated for early action. Other companies have not yet indicated their intentions, but the preference of approximately three cents per gallon on gasoline, and about seven cents on lubricating oil, no doubt, will lead to the establishment in Italy of facilities up to the requirements of the domestic market. While the protection provided is moderate, it is considered sufficient to enable refineries to operate profitably under present conditions. British oil interests at present seeking similar protection in England are urging a preferential of four cents, however, as necessary to ensure of a successful British refinery industry.

Some countries are limiting nationalization to strict government control of imports and refining, but to such a point that construction of local refineries becomes imperative to economical operation of oil companies engaged in marketing. Questions of national safety are considered more important by these governments than the fact that local refining is uneconomical in countries whose natural oil supply does not meet consumption demand. Italy's new petroleum law and regulations eliminate the crude tariff, giving domestic refined gasoline a preferential of about three cents per gallon over imported motor fuel. Refiners and importers will be licensed by the state, and excessive competition eliminated.

In adopting this plan Italy is following the post-war tendency of many nations to build up their own industries under protective tariff, and to accumulate a national reserve of oils for wartime use. The Italian government is cognizant of the fact that for a country which has virtually no oil production to encourage domestic refining is supporting a step that is not strictly economical and that it must increase the final cost to the consumer. The reasons for the movement outweigh these points. The tariffs on imported refined products are being considerably reduced, but not to a point where the projected refinery industry will be hampered, and these imports will be allowed only under a license from the government. The 15 percent ad valorem duty is also being removed. To make up for the elimination of the tariff on crude, and the reduced duties on products, a new series of very high sales taxes are imposed under the regulations of the law; these will be found in the table accompanying this article.

To give some conception as to the new refinery capacity that will be required a study of Italian petroleum statistics is necessary. Domestic crude production is now about 250,000 bbl. annually, having doubled in three years. Imports of crude and petroleum products now are between 16,000,000 and 16,500,000 bbl. per year—mostly products and fuel oil. So, with the general improvement in trade and business it can be assumed that consumption two years hence of all products will require a refinery capacity to handle not far short of 20,000,000 bbl. of crude. According

to figures recently emanating from Genoa the total domestic output of all petroleum products, including crude and coke, during 1933 amounted to about 3,507,000 bbl., of which motor fuel was 1,204,168 bbl. Available records indicate maximum capacity of existing plants in Italy aggregates a little over 3,500,000 bbl. annually, and several of these are not complete refineries, but were constructed to crack fuel oil. Hence, they will not be profitable to operate under the new conditions without reconstruction and modernization.

Consequently, it is possible to estimate that the new refinery capacity will have to be sufficient to handle between 40,000 and 45,000 bbl. of crude per day, plus the reconstruction of most of the existing plants, if only domestic requirements are to be taken care of, and no arrangements made to export to nearby countries.

To an extent state protection probably will also be given to manufacturers of refinery material and equipment used in construction of the program. While—as we write—details of any new regulations on equipment manufacture have not come to hand, requirements under the old petroleum law are, that proposed orders for equipment to be purchased abroad must first be submitted to the government's technical office in Milan for approval before forwarding to the Ministry of Corporations and to the Ministry of Finance for the granting of permits for importation free of duty where it is shown that the particular equipment is not obtainable in Italy. If Italian engineering concerns can manufacture the equipment, a duty is imposed should the purchase be made abroad. However, so specialized and intricate is the manufacture of refinery equipment, and so comparatively slight is the experience with modern high-efficiency refinery construction in Italy, it is understandable that the authorities will not impose any restrictions that will endanger successful construction and operation of the required refineries, or cause delay in their completion. Presumably quite a substantial quantity of special equipment will necessarily have to be purchased in such countries as the United States, Great Britain, Germany or Czechoslovakia.

Prior to the publication of the new regulations, a number of suggestions were put forward by the Mineral Oil Group of the National Fascist Federation of the Chemical and Related Industries. The Italian government in its memorandum to the Chamber of Deputies requesting enactment of the law pointed out that the previous petroleum legislation no longer corresponds to the new national exigencies, nor does it correspond to the new orientation of the economic policy of the Fascist administration. Emphasis was placed upon the fact that there has been a failure to provide for an adequate supply of crude oil and refined products for national defense reserves. Furthermore, the arrangement existing up to the present time represented a loss to the treasury of nearly 100,000,000 lira annually. This memorandum suggested that oil companies should be obligated to maintain an untouchable stock of raw material, and later finished products, as a reserve for national defense.

By licensing the importation of petroleum and products the government expects to be able to keep in constant touch with all activities and control the formation and scope of the financial groups operating in the domestic petroleum market with an eye to national defence, as well as from commercial and financial standpoints.

Licenses will be issued in two forms,—one for imports in quantities of not more than 2,100 bbl. monthly for direct use by the importer, and the other for over 2,100 bbl. monthly for industrial and commercial purposes. In the case of refined products the import licenses will not be granted for over three years duration; but crude licenses up to 20 years will be granted. Upon reconstruction and modernization of the refinery a 20-year extension of the license can be obtained.

All applications for import and refinery licenses must be submitted to a Commission that is being created by the Ministry of corporations, composed of six members nominated by the Ministries of Corporations, Finance, Internal Affairs, Public Works and Communication, and by the Committee of Civil Mobilization, respectively. Its chairman will be the Minister of Corporations or his appointee. This Commission is empowered to make the following recommendations:

(1). Acceptance or refusal of applications.
(2). Conditions and requirements to which the acceptance of the application must be subordinated.
(3). As to preference in the case of several applications.

After the Commission has expressed its opinion on applications the Ministries of Corporations and Finance will rule upon the said recommendations, and their decision will be sole and final.

Refineries cannot be built at places other than those approved by the Ministries of Corporations and Finance after the opinion of the Supreme Commission of Defense has been obtained. With certain exceptions, which presumably refer to engineering specialists in refinery construction, workmen must be of Italian nationality, and the Ministry of Corporations is empowered to grant such exceptions. An interesting point is that where licenses for refinery construction have been granted, such plants shall be considered outside the custom boundaries insofar as the "working" of petroleum products is concerned. In other words, after the refinery is in operation the duty exception is limited solely to the raw petroleum. The custom regulations of the petroleum decree of November 25, 1926, remain temporarily in effect and until cancelled. It is expected that any necessary importation of special equipment for the construction of the refineries will be covered by these old tariff laws.

To construct or operate petroleum distributing depots for gasoline, lubricating or other oils a concession must be obtained from the Ministry of Corporations, even should the installation be on private property. Duration of a concession will be decided by the Ministry; in fact the application is subject to the sole and final decision of the Ministries of Corporations and Finance, respectively, after they have secured an opinion from the Commission now being formed. The Ministry of Corporations may delegate the granting of installation of distributing apparatus to the Prefects. In the case of storage depots for private, agricultural and industrial uses, those of not over 25 cubic meters will be exempt from concession obligations. The opinion of the Supreme Commission of Defense must be obtained by the Ministry in cases where the storage capacity exceeds 500 cubic meters.

It will be interesting to watch what effect the elimination of the average duty of $3.50 per barrel will have on domestic production of crude oil. Hitherto, this protection has enabled the drilling and pumping of some hundreds of very small wells to be carried on at a reasonable profit, and there has been considerable activity during the last three years, including searching for new oil lands, as has been previously described in WORLD PETROLEUM. It is quite possible that the three cents preferential now given to domestic refined gasoline will still enable Italian crude to be produced without financial loss, and the government remains just as anxious to increase domestic production of crude oil.

During recent years Russia has been the most important factor in the crude oil market in Italy, with Colombia and Roumania entering more prominently into the picture in 1933. While the U. S. A. shipped 2,300,000 bbl. of crude in 1932, she shipped none last year. During the first 11 months of 1933 Soviet petroleum imported into Italy totalled about 6,350,000 bbl. of oil, of which 800,000 bbl. were fuel oil for cracking.

Only about five percent of the remainder was refined products. Hence, the greatest portion of the Soviet's business with Italy consists of crude, which now will be entered free of duty. As the present policy of the Russian oil industry is to refine only in the U. S. S. R., the Soviet position is not likely to be changed to any considerable extent unless the Societa Anomima Italiana 'Petrolea' (The Soyusnefteexport's Italian importing company) builds a refinery. The latter action is very doubtful, and until more complete refining plants replace existing cracking units in Italy the only likely loss to the Russians is the 800,000 bbl. of fuel oil. Sales of crude may increase later to offset this, unless the A. G. I. P. obtains a sufficient supply of crude from Mosul which can hardly be within three years at the earliest.

Revenue for the government from the petroleum industry will be derived partly from the reduced duties on refined products, but mainly from the greatly increased sales tax on all products—both domestic produced and imported. The revised customs duty and sales taxes work out in U. S. units as shown in the accompanying table.

Expressed in terms of Italian currency, motor fuel and benzine will now pay a duty of 120 lire per 1000 kilos plus a sales tax of 1,610 lire, as compared with 881 lire, plus 15 percent ad valorem and a sales tax of 800 lire before the new law went into effect. The new duty on lube oil will be 250 lire plus a sales tax of 550 lire, as against 440 lire duty and 15 percent ad valorem and a sales tax of 220 lire previously.

New and Old Imposts on Petroleum in Italy

(Expressed in Italian Currency)

	Import Duties		Sales Tax	
	Old	New	Old	New
	Lire per 100 kilos			
Gasoline	88.10	12.0	80.0	161.0
Kerosene	88.10	12.0	14.0	93.0
Lubes	44.0	25.0	22.0	55.0

Revised Tariffs and New Sales Taxes

(Expressed in U. S. Cents per Gallon and assuming average granties and based on lira at 8.4 cents)

	Kerosene	Gasoline	Lube Oil.
Duty	3.09	2.78	7.27
Sales tax	23.95	37.50	16.00

Petroleum Imports Into Italy 1933

	Barrels
Gasoline	3,783,920
Kerosene	1,367,350
Gas and Diesel oils	1,457,400
Fuel and Bunker oils	8,971,900
Motor oil	173,800
Asphalt	639,325
Total	16,393,695

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Dollar Devaluation Sustains Exports

Marked Swing from Refined to Crude Exports from U. S. Results from Foreign Refinery Programs, East Texas Overproduction and Depreciated Currency.

DURING 1933 the export and import trade of the United States in petroleum and its products continued the process of contraction first noted in 1931. The exports from the United States of all petroleum products after reaching a record volume of 163,120,000 bbl. in 1929; declined 4.06 percent to 156,499,000 bbl. in 1930; 20.50 percent to 124,394,000 bbl. in 1931; 17.08 percent to 103,088,000 bbl. in 1932, and increased 3.22 percent to 106,525,000 bbl. in 1933, the latter increase, however, being due entirely to the increased cheap crude oil exports from the East Texas and Gulf Coastal oilfields and to the marked devaluation of the U. S. dollar during the second half of the year. The 1933 exports of all petroleum products amounted to 65.2 percent of the exports in the record year, 1931.

The imports into United States of all petroleum products reached the highest post-Mexico volume in 1929 when 108,710,000 bbl. was brought in, as compared with the peak figure of 135,974,000 bbl. imported into the United States at the height of the Mexican oil field developments in 1922. In 1930 the imports into United States declined by 2.84 percent to 105,618,000 bbl. as compared with 1929; in 1931 by 18.52 percent to 86,087,000 bbl.; in 1932 by 13.51 percent to 74,445,000 bbl.; and in 1933 by 37.78 percent to 46,271,000 bbl. The 1933 imports were only 42.6 percent of the imports in 1929, and but 34.05 percent of the imports in 1922. The decline in imports after 1922 was due to natural exhaustion of Mexican oil fields, after 1929 the decline was due to voluntary curtailment of production in Venezuela and after July, 1932, it was due to the U. S. oil import tax.

During 1933 three major factors influenced the exports from the United States. The Great Depression was a factor in reducing the consumption of motor fuel abroad, and the exports of gasoline consequently decline to the lowest figure since 1924, being but 29,186,000 bbl., or 44.4 percent of the peak motor fuel exports in 1930, and 17.8 percent under 1932 exports. The vast overproduction of crude oil in the East Texas oil field during May, June, July, August and September of 1933 broke the crude oil prices to such an extent as to make purchases from abroad very profitable and consequently crude oil exports in 1933 reached an all time record volume of 36,703,000 bbl., 25.4 percent above 1932 crude oil exports, and constituted 34.45 percent of the exports of all petroleum products, the highest crude oil ratio on record, and as compared with 26.5 percent in 1932, 20.4 percent in 1931 and 15.1 percent in 1930. The gradual devaluation of the U. S. dollar to 59.06 percent of its former gold parity, initiated in April, 1933, reached appreciable discount of 30 percent by July, 1933, and slipped to 40 percent by the end of the year, thus proportionately reducing the cost and making more attractive to foreign buyers the purchases in United States. The exports of kerosene from United States declined

in 1933 to 8,960,000 bbl. as compared with 10,956,000 bbl. exported in 1932, a drop of 18.26 percent, and 12,000,000 bbl. under the average annual kerosene exports from 1922 to 1929, a decline of 57.4 percent. The continuous decrease in kerosene exports is due to unfavorable economic conditions in the Far East, as well as to competition from European marketers. The exports of gas and fuel oil from the United States during 1933 were unchanged in volume as compared with 1932, 20,369,000 bbl. and 19,874,000 bbl. having been exported in those years respectively; but these exports were 33 percent below gas and fuel oil exports in 1931, and 57 percent below the peak reached in 1927, when 47,391,000 bbl. of gas and fuel oils were exported. The exports of lubricating oils from the United States in 1933 were well maintained due to the devaluation, amounting to 8,218,000 bbl. as compared with 6,857,000 bbl. exported in 1932, 8,128,000 bbl. exported in 1931 and the peak of 11,023,000 bbl. exported in 1928.

Nineteen thirty three was the first full year under protective oil import taxes and the imports were therefore radically curtailed. The crude oil imported into the United States during 1933 amounted to 32,773,000 bbl. as compared with 44,688,000 bbl. imported in 1932, a decline of 26.65 percent; as compared with post-Mexico peak of 79,767,000 bbl. imported in 1928, a decline of 58.9 percent; and as compared with the Mexico peak of 127,308,000 bbl. imported in 1922, a decline of 74.3 percent. Motor fuel imports in 1933 were reduced to a nominal volume of 12,000 bbl. as compared with 8,209,000 bbl. of gasoline imported in 1932; 13,621,000 bbl. imported in 1931; and the peak of 16,927,000 bbl. imported in 1930. Gas and fuel oil imports were also radically reduced by the import tax dropping to 13,217,000 bbl. in 1933, from 21,229,000 bbl. imported in 1932; 24,998,000 bbl. imported in 1931; and the peak of 26,080,000 bbl. imported in 1930.

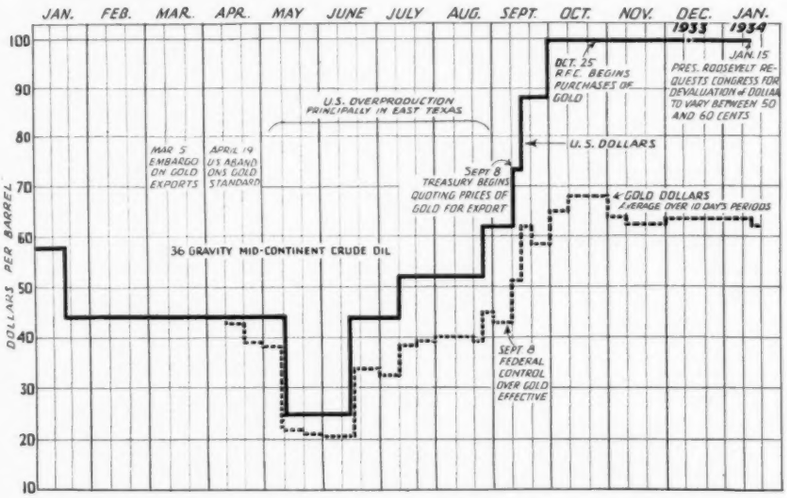
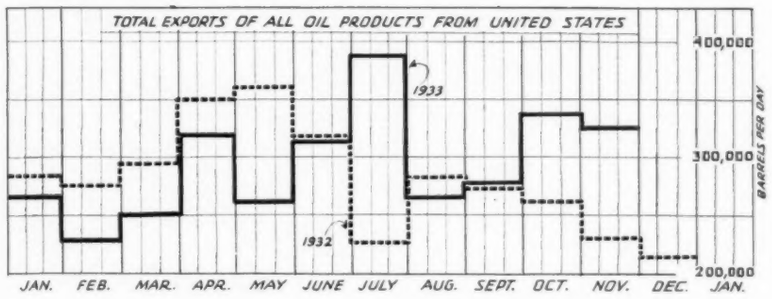

JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. JAN.
1933 1934
DOLLARS PER BARREL
100
90
80
70
60
50
40
30
20
10
U.S. OVERPRODUCTION PRINCIPALLY IN EAST TEXAS
MAR. 5 EMBARGO ON GOLD EXPORTS
APRIL 19 U.S. ABANDONS GOLD STANDARD
SEPT. 8 TREASURY BEGINS QUOTING PRICES OF GOLD FOR EXPORT
OCT. 25 R.F.C. BEGINS PURCHASES OF GOLD
JAN. 15 PRES. ROOSEVELT REQUESTS CONGRESS FOR DEVALUATION OF DOLLAR TO VARY BETWEEN 50 AND 60 CENTS
U.S. DOLLARS
GOLD DOLLARS AVERAGE OVER 10 DAYS PERIODS
36 GRAVITY MID-CONTINENT CRUDE OIL
SEPT. 8 FEDERAL CONTROL OVER GOLD EFFECTIVE

Chart shows the response of export oil prices to major factors influencing the trade during 1933. Note separation of gold and U. S. dollars.

Crude oil exports have shown the most striking increases in the last three years by countries of destination due to new refinery construction; thus the crude oil exports from the United States to France were 619,559 bbl. in 1931, 3,403,649 bbl. in 1932 and 8,361,257 bbl. in the first 11 months of 1933; to Germany 131,104 bbl. in 1931, none in 1932 and 776,470 bbl. in the first 11 months of 1933; to Japan 3,606,243 bbl. in 1931, 4,877,028 bbl. in 1932 and 4,837,236 bbl. in the first 11 months of 1933. The decrease in the crude oil exports to Canada has been due to the re-routing of Venezuelan crude from United States due to the import tax, while Japanese purchases may be traced to intensive military operations of that country on the Asiatic mainland.



United States petroleum exports by months during 1933 shows marked variation from trend in 1932.

Natural gasoline exports increased greatly in 1933, reaching 1,588,938 bbl. in the first 11 months of the year, as compared with 307,989 bbl. exported during the whole 1932. Canada, Netherland West Indies and England were principal importers of natural gasolines, followed by Japan.

Motor fuel exports were generally reduced to all principal consuming countries, partly due to depression and partly due to the erection of local refineries. Motor fuel exports to England were 13,151,232 bbl. in 1931, 9,518,718 bbl. in 1932 and but 5,381,007 bbl. in the first 11 months of 1933; to France 6,132,260 bbl. in 1931, 4,913,038 bbl. in 1932 and 4,722,685 bbl. in the first 11 months of 1933; to Germany 983,864 bbl. in 1931, 743,870 bbl. in 1932 and 559,966 bbl. in the first 11 months of 1933; to Canada 2,963,277 bbl. in 1931, 2,211,734 bbl. in 1932 and but 1,037,951 bbl. in the first 11 months of 1933; to Japan 1,256,038 bbl. in 1931, 980,848 bbl. in 1932 and 967,390 bbl. in the first 11 months of 1933; and to Australia and New Zealand 3,447,761 bbl. in 1931, 4,591,464 bbl. in 1932 and but 3,440,966 bbl. in the first 11 months of 1933.

▼

U. S. Equipment Exports

IMPORTS from the United States during 1933 of "straight" oil industry equipment totalled almost $7,000,000. Oil and gas well drilling apparatus amounted to $2,692,279, while refinery equipment totalled $4,221,678. These figures do not include a large quantity of unclassified equipment used by the petroleum industry in its numerous operations.

Inspecting the Source of the Trouble—and Profit

Continuing the Diary of a New Oil Man on His First Inspection Trip—Seeing the Operation of a Great Oil Company in the Field From a New Angle

IN THIS, the second and final article in a series of two composed of extracts from the actual diary of a recent recruit to the oil industry, the anonymous author continues his observations recorded on a recent inspection trip. The president of a great integrated oil company accompanied by members of his staff travels annually through the marketing and producing fields of a representative section of the company's territory and by this means manages to keep in close touch with the actual conditions in the field. Appreciation of all the advantages of such a trip could best be obtained by actually being present; as this is obviously impossible the utility and atmosphere of this intimate contact with actual conditions can be recreated to advantage through the pages of the diary of one member of the party who, because of his recent entrance into the oil industry, views the problems presented by the industry from a refreshingly new angle.

TUESDAY, MAY 30:

COWLES, supervisor in northwestern Wyoming, when asked how business was, replied, "We have more than our share." Mr. President came back at him as I have learned to expect, "We used to have all the business in this town. Our share is 100 percent. Hell—more than our share!"

We have owned a service station site here for two years. Mr. President at once decided to put a building on it of an approved type. Later he ordered the obvious placing of a fender strip along the front of a loading dock to prevent denting by trucks. Division managers and their assistants, if they got out often enough, would notice these things. So this inspection works two ways. It jacks up the men who neglect things and it gets the matter fixed up at once.

"How long has Cowles been on this job?" asked Mr. President.

"Two and a half years," replied the division manager.

"That's just the trouble. We temporize with men and we temporize with things. Look at the globes on that old woman's pumps. Cock-eyed!"

"We've got to fix that," says the division manager.

"Why are not these things done before we get here?" asks Mr. President. "We put up a pump and say 'I hope the business comes.' This old woman is hung up to dry. She doesn't know anything about the oil business. It is up to us to tell her and other dealers. Who's going to do this?" Something tells me an idea was born right there.

"Are we too full of red tape?" Mr. President asked us all in the bus later. "Responsibility for everything within company policy should be on the division manager. He should ask nobody what is necessary. When we drill a wildcat well, the good driller never has a shutdown. That old tool-pusher does everything necessary because he is far from help and has to rely on himself. The marketing department never allows its men to act on their own. They have to refer everything to the home office by letter. No wonder this old woman gets nowhere. If I wanted her to get 2,000 gallons for every 1,000 she gets now, I'd figure a way and I wouldn't write a letter to anyone. I'd get it!"

The Major's shower water heater didn't work tonight.

WEDNESDAY, MAY 31:

MATTSON lied to Mr. President today when he denied anything was stored over the office ceiling at the pipeline terminal. He might have known Mr. President would take a look after receiving that answer. Mattson would have lost his job over it but for his sick wife and many young children.

Along the pipeline at Station 3, one tank was leaking beyond repair. "Quit bothering with those riveted tanks for this crude," said Mr. President. "Order a new welded tank at once." Seemed to me hasty. Who had checked up on the relative costs of loss and of new tanks? So I asked for figures. They were to be had.

Inspection trips insure year-round maintenance and maintenance pays.

The tank will pay for itself in 30 days. Does this inspection trip pay?

At the Mannington refinery today we found saws and bits rusting from lack of oil, thermometers carelessly put away, paint brushes that did not smell clean, old files and catalogs, surplus stocks of rivets, leaky tanks. No violent scenes, but a firm impression was left that these must never be found here again.

McDonald, assistant general sales manager, with us from the start, left for home by plane tonight. Check-up of the three divisions we have covered will be started at once by him to make sure Mr. President's instructions have been taken seriously.

though." And they say prayers go unanswered!

Hot showers tonight. Major and Joe filled the tank on the truck with water from the local steam laundry.

FRIDAY, JUNE 2:

THIS DIVISION is very poor on upkeep. Wonder how Mr. President is controlling himself. He has had very little to say about it so far. Something must blow up soon. It can't last this way.

SATURDAY, JUNE 3:

THE DIVISION headquarters bulk plant was pretty bad. Lots of junk in corners, tools carelessly jumbled in drawers.

at service station No. 14, the division's pride. Compared with those of the previous two divisions it was a mess. Mr. President singled out an assistant division manager for attack. His desk was to be removed from his office and the office door locked until he could cultivate the habit of getting out in the field where he belonged and where he had obviously not been. The division manager came in for his, too, and was deeply hurt when Mr. President refused to look at any more stations. They upset his stomach, he said. We went to our tents and camp has not been hilarious this evening. This division is labeled now and will either step up fast or have a change. Which, I wonder?

Examination of locked drawers may reveal interesting facts about management. . . .

. . . . in the form of disregard for preservation of company property.

THURSDAY, JUNE 1:

THERE WAS plenty wrong with the little bulk plant at Sidney. Packages were stacked without dunnage between layers, barrels were left outside the fence, the pumphouse was a mess and a competitive oil can was in it. Paint was in bad shape and one of the wooden steps to the dock was split. It wobbled as you stepped on it.

"Fix that," said Mr. President.

"Oh, that doesn't amount to anything," muttered the supervisor.

"The hell it doesn't. Where's the agent who runs this place? He may get hurt here tomorrow. G— D— it, I said 'fix it.'" The agent was not there, not having heard we were coming. As we got into the bus a car drove up and a man eased himself out on crutches.

"What in the world happened to you?" asked the supervisor, for it was the agent. "Oh, nothing much. Sprained my ankle on that loose step over there last Monday. Got back on the job this morning,

Mr. President directed quietly that drawers be nailed up or torn out and tools put on an open board where you can find what you want. He ordered that a fire extinguisher in the garage be hung next the front door. In case of fire it can be reached from without as well as within.

The only bright spot was the pumphouse—easily the most beautiful piece of maintenance we have seen—and pumps and their foundations are not easy to keep dry and clean. Not a drop of anything anywhere. Some compliment was due. Mr. President rarely hands them out directly. He called to the vice president in charge of manufacturing, "Joe, come here and see how a pumphouse should look." Mike Smith, who had understood Mr. President's ideas three years ago, I'm told, showed hardly a sign that he noticed the praise of his work. Five minutes later I heard him ask Mr. President for advice as to the right college for his son. Mr. President knew his man.

The expected explosion came tonight

SUNDAY, JUNE 4:

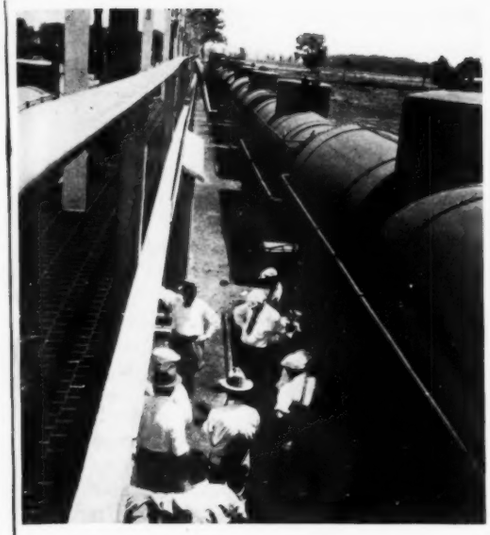
AS WE DROVE on the conditions appeared about the same, but the division manager showed a stiffened backbone as he talked with the local men. Effect of last night's explosion?

A drawer was found locked today with a padlock to which no key could be found. "We must be able to get into anything on our property" was the rule that came from this.

At Millerton bulk plant Mr. President called for repair of a dripping valve. Kost, the agent, said, "It wasn't dripping yesterday." "No," said Mr. President, "they never are."

Toward the end of the day's run things seemed to improve, the men showing up more aggressive and alive. I mentioned this to Mr. President in his tent tonight. "Yes," he said, "the farther you get from headquarters."

Many items of maintenance and merchandising equipment such as lifts, washing apparatus, etc., should have been at-



The loading rack: successful inspection depends on familiarity with every branch of company operations.

tended to as results of frequent inspection by division personnel. If this inspection party had not come along these things might have dragged on for months or years. Still worse, the division management might have stayed as it was. Now I believe it will have radical and much-needed changes.

I've been thinking about what goes through the minds of the local field men as Mr. President cross-questions them. I believe they misunderstand what is expected of them; that they think Mr. President can not really know of their personal experiences and problems well enough to understand, if they unfold all that is on their minds; that they, therefore, try to uphold the honor of the division by answering as much to his satisfaction as they can. This shows a weakness in method which I believe Mr. President sees himself.

MONDAY, JUNE 5:

MILLS, district supervisor at Clovelly, got his third degree today but Mr. President was more tolerant. Mills took it like a sport and, though he knew very little, he did not seem to lie at all. He surprised us all by offering to resign at the end of the year if he failed to reach 1,000,000 gallons of gas and 40,000 gallons of motor oil. This would be over a third increase.

A dealer for Concho Oil Company asked us, today, to take him on as our distributor. It was a temptation which was resolutely rejected because it would be possible only if he jumped his present contract. He seemed surprised and disappointed.

Tonight's camp is in a beautiful, high meadow overlooking broad curves of the Salt River. We're up high in bracing air which puts the spirits of the crowd on a top level, and, incidentally, makes the hot water that Major and Joe provided for the shower very acceptable.

Long discussion in Mr. President's tent between him and the marketing executives on the subject of division management personnel. General agreement that lack of capable assistant division managers in some cases handicaps aggressive and constructive action. Mr. President warned that the "glass must not be broken by too sudden or widespread discharge." Resulting harm might be more than that suffered at present. The trip provides the common observation of incidents as the spark and the constant opportunity for joint discussion as the power plant from which good organization results come. "If Maxwell and Wiggin (two vice presidents) could get out of the front office and off on a trip like this all the way they sure would feel differently about some of these things," said Mr. President tonight.

The third degrees applied today were all more tolerant and the field men gave far more constructive answers. Wonder which is cause and which effect. Mr. President is putting more and more emphasis on the dealer. Good! There are ten times as many as of our own stations. What a potential if they were all good merchandisers.

TUESDAY, JUNE 6:

A FLOCK of good answers to Mr. President's questioning today, with specific promises of performance volunteered. The tolerant attitude seems to be getting results.

Two quick decisions today, one to junk a tank to save rehandling of gasoline, the other to fire a lessee at once for having allowed his tank for regular gasoline to run dry twice on busy Saturdays. Mr. President's words were, "Fire them even if they've been with us 50 years if they aren't getting by." Another nail in the coffin of temporizing.

Cost of service stations is being brought home every day more and more. Mr President's quick giving of authority to build is now qualified by a $5,000 limit of expenditure. Something new for the engineers to worry about.

At dinner in camp tonight Mr. President entertained the bunch by recounting vivid stories of fighting for oil in Venezuela.

Passed four trucks full of young men looking like natives of the Bronx heading for reforestation camps. How much better than allowing them to hang around hot street corners back home.

In the field: where conditions develop an attitude of self-reliance that should be cultivated by the marketing division.

WEDNESDAY, JUNE 7:

A RUSTY saw cost the division manager a fine today. Some that were not oiled may have escaped our eagle eyes but not many. Mr. President is hot on clean paint brushes, too. The picture of him smelling of them is a daily characteristic of the trip. The company paid for them and will have to pay for new ones if these become ruined.

Quick decision today to tear down the one remaining and useless old brick building at division headquarters to save taxes and fire risk.

Ran across a $13,000 service station of ours today at Fish Fork, population 143. What an explosion that drew! I'll bet that won't be repeated anywhere else.

Another assistant division manager was ordered locked out of his office today. In the field is where they belong.

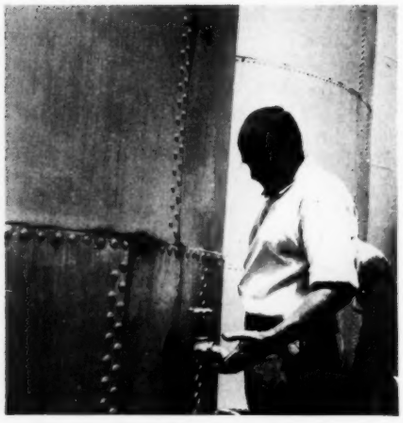
THURSDAY, JUNE 8:

AT THE DIVISION headquarters warehouse today Mr. President came across a large chest. It was locked and no key available. "That's got Bob's tools in it," said the division manager. "I don't care whose they are; they are on our property. Get a hack saw," said Mr. President.

The lock was sawed, the cover thrown back, and the worst mess of tools I ever saw exposed, saws and bits with edges rubbing against wrenches and files, and all in a bath of grit and grease. Mr. President emptied the entire chest with his own hands, first one tool at a time, finally all at once by overturning the chest.

"Fire that man, even if he's your own brother," he said; "no man who keeps his tools like that can do anything else well. He can't work any longer for this company."

There are 23 men who will never forget that object lesson.



Cutting red tape. Replacing a leaky tank may pay for itself within a year.

In the bus when the division manager was given his assignment of gallonage for the balance of the year, he replied with a long, monotonous line on gyp competition, low prices, etc. It was terribly weak and boring. I don't know whether Mr. President was really dozing off or just showing his disapproval that way. The penalty for going to sleep enroute has been a dousing with ice water.

The Great Sandy field was fascinating today with its deep gullies and bare buttes. These oil men in a producing field are electrified. Action is stepped up, resourcefulness comes to the surface. In the field force of the marketing department I am coming to the conclusion that we cannot expect the men, with a few exceptions, which stand out conspicuously, to think of the significance of what they encounter or of trends in what is around them. They can be, nevertheless, good salesmen, but headquarters must pretty much guide them by explicit rule and constant supervision. In production, the varying conditions the men confront and their relative isolation make the problem quite different. As a result initiative and imagination are found on all sides where the derricks and the shackle-lines paint the picture.

SATURDAY, JUNE 11:

SAW QUITE a lot of motor oil in sealed cans today. A new and important consideration. This is the place for all concerned to estimate its importance—where it is being used. Much discussion of it today but no conclusion.

Our advertising has been good, but it appears to have been parallel with selling activity, not part of it. Mr. President has seen this on numerous occasions. Discussion with the advertising manager and general sales manager today will result in better merchandising of our advertising in the future.

Much effort by the superintendent of our Monarch No. 1 refinery today to pacify Mr. President. It was useless. The more he tried the more was found wrong. Pipe ends were not plugged, heat was turned on in the Ethyl dressing room, asbestos and rolls of roofing paper were stacked outdoors, and the latter warped by being left lying on their sides, hatches on tanks were open, stocks of supplies were excessive, paper cups for a year in the car shop. The manufacturing people were not happy today.

More attention today to the dealer's possible improvement. This subject is hot.

Banners, and pennants, as advertising in filling stations have come home to us all, as the result of our seeing so many in succession, as a form of advertising once

This hazard to safety wont be here tomorrow.

novel and effective but now messy, unattractive, and too common to be distinctive. We are off their torn and wisped and faded futility for good.

THURSDAY, JUNE 15:

MR. PRESIDENT spotted a broken garage door a quarter of a mile away at the Dunlap pipeline station today. Nothing escapes. Agitation of gasoline in loading tank cars and trucks reached a climax of discussion today and the chief engineer was directed to develop a more simple and fool-proof bottom loader.

As a result of an illuminating talk with Miller, supervisor at Salida, the marketing department sees that our new commission agents have been too much left to their own devices. Steps will be taken to see that they are thoroughly broken in and more constructively supervised. This was deeply impressed on the general sales manager today for prompt action.

SUNDAY, JUNE 18:

SPENT THE whole day with our jobber in Morehead. We all had a lesson from him in low-cost distribution. His filling stations were all under $5,000 investments, yet look snappy and clean, quite adequate to their job. Supervision is effective because he knows every man intimately and they know it is his business he is watching—not that of Chicago and Los Angeles stockholders. Because he is not a large or widely-spread operator he can move quickly to keep up with trends and to adopt new merchandising ideas. This market and its distributor made a profound impression on us from Mr. President down.

Sealed cans of oil came in for more talk today but without conclusion. Seeing them in distribution certainly brings out their real good and bad features.

Mr. President said today that this annual trip gave him a factual basis for decisions during the year which he could get in no other way.

MONDAY, JUNE 19:

WHAT IF all our district supervisors were as good as some we've talked with? I've seen enough cases where this company has been able to step in and take away long-standing business, without cutting a price or doing anything at all shady, to realize our latent power. It is a question now largely of men and temporizing with the wrong ones slows up the whole machine.

WEDNESDAY, JUNE 21:

CERTAINLY was good to see the old home office again this afternoon. Eight

Breaking camp at the end of the trail; has our month been wasted?

thousand four hundred and thirty-one miles we covered in exactly thirty-one days. No one was really sick on the whole trip, no one hurt. Every man has put on a little weight which would be surprising considering our average of fourteen hours a day, in strenuous action, if it were not that J. B., our colored cook, kept on providing huge breakfasts with real cream, big box lunches and wonderful hot dinners at any hour of the night we might pull into camp. Nineteen states saw our colors this time. Another year I suppose we shall cover another section of our working territory.

What a hawk's-eye view of the business this trip gives. Most of it Mr. President will remember in detail. For the rest he has Joe Mosher's notes and the resulting "wise book." Every important circumstance has left a mark of its significance in his mind. And on every man and every piece of company property this man has left his dynamic impression. For a total cost of less than $15 per day per man it is hard to imagine its equal in value.

All during the trip I've been trying to put my finger on the vague feeling I've had that I had seen oil men in action before, somewhere. I have it now. In spirit and character they are like the deep sea sailing men of the grand old clipper-ship era. The captains of those great sailing ships had a schedule to make from coast to coast around the Horn and when a gale carried away a topmast or a whole mast they could not 'phone Boston for a new one by air mail. There they were in the South Pacific with a ship and cargo, a crew and passengers, and from their own resources alone they had to bring her safely to San Francisco. They did it time after time and never gave it a thought.

Compare this with the wildcat driller. A hundred miles, perhaps, from a railroad. Bad roads,—or none. A gang of tool-pushers and roustabouts and a lot of rig and tools. Five thousand, ten thousand feet of gravel and rock to pierce and find oil. Like the sailor, he must do it without help from civilization. Because he has done this countless times he has come to have a resourcefulness and a calm confidence that he can do what he sets out to do that differs little from the spirit of the sailor.

This has been at the source of oil; but the spirit has become characteristic of the oil man. It is evident in the pipeline where mountains and rivers cannot stop the flow of oil. It can be seen in the refinery where the solution of a chemical problem is only a question of time. It can even be seen in marketing where the oil man drives in to the toughest situation with no thought of turning back.

Here, however, may he possibly be met with an obstacle new in his experience? To a large degree up to this point he has dealt with material things. Once he has learned how they behave he can count pretty much on their continuing to behave that way. In marketing, he deals with people. Singly they do one thing, en masse they do quite another. Today they want free wheeling, tomorrow they do not. This year they want their oil with a green cast, next year they may insist on blue, yellow, or white. They will not stay "put," nor will they yield to the oil man's amazing determination so readily as crude oil. I wonder. Will the oil man's determination and resourcefulness be patient with men, whether employes or consumers, until he learns what they want and gives it to them? For my part, give me this inspection trip once a year to check up on myself, as well as the company, if I'm going to be an oil man.

The bus that was our home for a month while we travelled 8,431 miles.

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Gazing into the Crystal

AFFAIRS move swiftly in the international oil world, and the swifter they move the greater the resultant complications, which raises the question as to the probability of yet another pipeline from the Near East to the Mediterranean parallel to, but south of, the new I. P. C. line.

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A MAP OF Venezuela in four colors has been published by the International Map Company of New York. This map shows in color the location of practically all petroleum leases held by the principal companies operating in Venezuela. In addition states, districts and concessions are clearly marked.

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MEN OF MARACAIBO by J. N. Leonard ($2.50 G. P. Putnam) gives an interesting picture of the life on the shores of this Venezuelan lake where life existed for centuries before the first European disturbed its tranquil flow. And which the author believes will exist for centuries after northerners have abandoned exhausted oil fields. Nothing can disturb the tranquillity of life on the shores of this arm of the sea, thinks Mr. Leonard, because the inhabitants have given no hostages to the economic systems of the north.

Somewhat highly colored, MEN OF MARACAIBO is an extremely interesting book, both because of the facts it contains and because of the author's point of view in describing life in Maracaibo. Eliminating the economic theorizing and the somewhat improbable tales, the remainder is interesting and amusing both to those who are familiar with Venezuela and those who have never been there.

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EFFECTIVE February 24, 1934, the headquarters of the American Petroleum Institute will be Room 2040, 50 West 50th Street, New York, N. Y.

Losing 30 Years Development in Poland

One of Europe's Important Sources of Crude Would Appear to Have Reached the Bottom of the Cycle in Disorganization and Should Now Be Able to Look for Improvement. By S. Weitz

DESPITE the encouragement lent to domestic petroleum industries by European countries which seek economic self-sufficiency, the oil industry of Poland during the past few years has displayed a marked tendency to languish instead of progress.

Starting in 1884 with a production of 16,000 bbl. annually the Polish output increased rapidly until 1909 when production exceeded 14,000,000 bbl. Following the war in Europe production continued on a reduced scale and during the past five years has been declining steadily.

Polish Petroleum Production

Year	Barrels
1884	16,100
1890	641,200
1895	1,503,600
1900	2,284,100
1905	5,612,500
1909	14,372,050
1913	7,497,280
1919	5,821,900
1920	5,355,140
1921	4,934,090
1922	4,991,700
1923	5,160,260
1924	5,395,530
1925	5,683,503
1926	5,572,609
1927	5,059,334
1928	5,201,000
1929	4,722,823
1930	4,739,341
1931	4,411,960
1932	3,896,795
1933	3,850,000

The reduction following the war was due to a reduced drilling program while the war was going on. When normal operations were resumed the production increased until 1925; since then, due to a variety of factors, production has decreased until 1933. From the point of view of production, the Polish petroleum industry has been set back just thirty years. Technical and geological, political and economic factors contributed to bring about the decreasing trend of production in recent years.

The petroleum industry of Poland is concentrated in Galicia which Poland received, following the war, as a result of the peace treaty. When Galicia was controlled by the Austrian Empire, English, Dutch, Austrian, and German capital had contributed to the exploitation of the oil reserves of Galicia.

Poland, however, enjoyed the use, principally, of French capital and following the war, with France anxious to assure a supply of petroleum for her refinery program, French capital flowed into the Polish petroleum industry displacing the capital formerly furnished by the countries mentioned above. The change in the source of capital invested in the Polish petroleum industry was completed about 1930 when the position was as set forth in the accompanying table.

Nationality of Capital Invested in Polish Oil Industry, 1930

Source of Capital	Amount of Capital (zloty)	Amount of Capital (gold dollars)	Percent of Capital
Polish	72,811,000	8,154,832	23.1
French	158,168,000	17,714,816	50.3
Austrian	28,108,000	3,148,096	8.9
American	43,933,000	4,920,496	14.0
English	950,000	106,400	0.3
Belgian	2,161,000	242,032	0.7
Italian	1,860,000	208,320	0.6
Hungarian	584,000	65,408	0.2
Swedish *	4,731,000	529,872	1.5
Dutch	150,000	16,800	—
Swiss	1,375,000	154,000	0.4
Total	314,831,000	35,216,072	100.00

Zloty converted at the rate of $0.112 gold=1zl.

* Partly Swedish (Nobel); partly American (Standard) through the Nobel-Standard Oil Co.

The French capital invested in, and dominating, the Polish petroleum industry was not prepared for long-range investment and difficulties began to occur at once. An immediate return on the invested capital was expected and when this was not forthcoming it became difficult to raise funds for further expansion. Yet, further expansion was essential if the industry was to continue its important place among European oil producing countries.

Natural conditions served to emphasize these difficulties. Boryslaw is the center of the petroleum producing industry in Poland, nearly 80 percent of the total Polish crude output having been drawn from this district. No attempt was made to explore systematically the promising areas east and west of this district. All drilling was confined to the small center of the Boryslaw district that had been producing for many years. By 1922 this area was beginning to show signs of exhaustion. The increase in production, that may be noted in the accompanying table in 1922, was due to deeper drilling, however, rather than exploitation of new areas. The deeper drilling uncovered lower producing horizons but these have proved less productive than the upper strata.

Again, lack of capital has caused antiquated drilling equipment to be kept in use long after its obsolescence was recognized in other oil producing countries. This equipment, in use on some of the particularly difficult formations to be found in the Polish fields, causes drilling to be several times more expensive in Poland than in other comparable producing fields. This high cost of production has lost for Poland the markets of Germany, Czechoslovakia, Austria and Hungary. In the production of some petroleum products, Poland is little more than self sufficient.

With a diminishing crude production and high tariffs, the Polish refiners compete not only for a share of the lucrative domestic market but for the available domestic crude supply. High tariffs protect the market from competition of refined products produced in other countries. At present, less than 50 percent of the Polish refining capacity can be used. High prices put a definite limit on the consumption of products. The government has attempted to assist the industry by setting quotas for the domestic and export market and allocating these among the refiners according to their capacity. Many Polish petroleum refineries are owned by companies that have no production of their own. The attempt at government regulation, however, has proved a failure so far; abuse of the privileges granted to small refineries and the fact that no attempt to regulate the crude market was made led to the failure of government regulation. Provisions of this regulation are still in force nevertheless.

With crude selling at $2.65 (gold equivalent) per barrel and the average price for refined products $2.25 per barrel —a loss of approximately $0.40 per barrel —the difficulties in which the Polish industry finds itself are evident.

Foreign Oil Legion

J. A. MOWINCKEL, pictured at the right, genial cosmopolite, who exercises general supervision over the European operations of Standard Oil (New Jersey) and its subsidiaries, is visiting the new headquarters of the parent company in Radio City, New York. Amid frequent changes in governments and governmental policies regarding petroleum Mr. Mowinckel retains his smiling aplomb confident in the seaworthiness of the good ship Jersey Standard and her ability to ride out political storms.

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LESTER LUECKE, chief geologist of the Colombian Gulf Oil Corporation, Cucuta, Colombia, is visiting the New York offices of his company. Mr. Luecke has been doing geological work for the last couple of years under conditions in the Colombian jungle which have been rendered particularly difficult due to the activities of the Motilone Indians who are probably the wildest of the savage tribes of today. As yet they have not been seen by white men and the only thing to indicate their presence is their wooden arrows.

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R. J. LARKIN has been appointed to the Board of the Commonwealth Oil Refineries, Ltd., Melbourne, as representative of the Anglo-Persian Oil Company Ltd. He is visiting London and will shortly return to Australia. At one time he was branch manager in London of the British Petroleum Company, but started in the oil business with the Vacuum Oil Corporation in New Zealand 27 years ago.

J. W. VAN DYKE, chairman Atlantic Refining Company, Philadelphia, Pa., is in Europe with R. C. Tuttle, manager of his marine department. Mr. Van Dyke has long been an advocate for Diesel-electric drive for tankships, and has a number of vessels in service propelled by this form of power.

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J. W. CASTERTON, director of purchases, Standard Oil Company of New Jersey, is traveling in Europe on an extended business survey of his company's purchasing organization.

K. D. PARDEE, who was in charge of the early drilling in Iraq when Baba Gurga No. 1, the first 100,000 bbl. gusher in that country, was brought-in, is now superintendent of the Montana division of The Texas Company's production department. The great Kirkuk structure now has about 40 producing wells over its 40-mile long area.

E. ARTHUR BALDWIN, vice president in France of the International General Electric Company, has been elected president of the American Chamber of Commerce of Paris on the occasion of the chamber's recent annual banquet.

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ARTHUR GILCHREAS, drilling superintendent, Colombian Gulf Oil Corporation at the Barco concession, was recently in New York prior to going to Houston, Texas, on a vacation.

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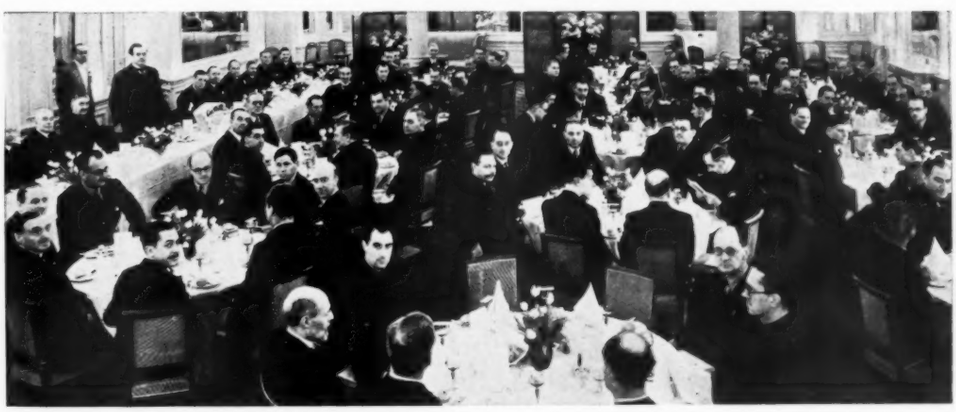


AT A LUNCHEON, pictured on the left, given at the Savoy Hotel in London on January 31, 1934, The Petroleum Storage and Finance Corporation and the Distillers Company announced that they had entered into an agreement to manufacture and market a petrol alcohol blend to be known as Cleveland Discol. This is the second gasoline-alcohol blend to be widely marketed on the British market, the first having been introduced by Cities Service.

Petroleum in the famous Khyber Pass between India and Afghanistan. Courtesy Standard Oil Co. of N. J.

Light for the Pillow Book

Components of The Socony-Vacuum Have Been Supplying Fuel for Far Eastern Lamps for Many Years; Jersey Standard Produces and Refines in Netherland India: Now Standard Vacuum Will Carry on All These Operations

ALTHOUGH designated in financial parlance as a subsidiary concern by reason of the fact that its ownership is divided between two of the world's largest oil corporations, the recently organized Standard-Vacuum Oil Company ranks in every other respect among the leading and important international petroleum organizations. A fully integrated company, it operates wells, pipelines, refineries, great fleets of vessels, tank cars and motor vehicles and has thousands of service stations and agencies. It serves a territory comprising more than a quarter of the total land area of the globe and containing more than half the world's population.

The company was formed by combining the Far Eastern producing, refining and distributing equipment of Standard Oil (New Jersey) with the marketing facilities of Socony-Vacuum in the Orient. Plans for the merger were outlined in WORLD PETROLEUM in September of last year. Since then the organization of the company has been completed and further details regarding it are available from a description prepared for publication in a forthcoming issue of THE LAMP, publication of the Jersey Standard.

The new unit was incorporated in Delaware with a capitalization of $10,000,000, and the capital stock was distributed to the two parent corporations, share and share alike. Officers of the Standard-Vacuum were chosen from the two petroleum companies on the basis of their experience in the Far East.

Branch offices of the Socony-Vacuum Corporation in the Far East become part of the Standard-Vacuum Oil Company organization. The N. K. P. M. (Nederlandsche Koloniale Petroleum Maatschappij), operating company of Jersey Standard, as well as various Socony-Vacuum subsidiaries, continue to operate their own properties, turning over their capital stock to the new Standard-Vacuum unit.

W. B. Walker, vice-president of Socony-Vacuum, heads the new company, with G. S. Walden, general manager of N. K. P. M., as senior vice-president. Other vice-presidents are H. Dundas of Socony-Vacuum, E. F. Johnson of the Jersey company, and P. W. Parker of Socony-Vacuum. C. A. Thompson of Socony-Vacuum is general counsel. E. T. Singer and B. D. Southerland of the same company are treasurer and secretary, respectively with A. Pattison, Jr., of Jersey, as comptroller. Directors, in addition to the president and vice-presidents, are J. H. Congdon and F. H. Fitzgerald of Socony-Vacuum and A. L. Mellar, T. E. Mobley and A. H. Tomlinson of Jersey.

The N. K. P. M. has valuable producing acreage in Talang-Akar and elsewhere in Netherland India, together with a new 25,000 barrel capacity, fully up-to-date refinery in Sumatra. Socony-Vacuum has a widespread marketing organization all through the eastern hemisphere, notably in Japan, China, British India, Australia, New Zealand, Oceania, South and East Africa.

The merger provides a wide outlet for the crude and refined products of the N. K. P. M. and an abundant source of supply close at hand for Socony-Vacuum's marketing field.

Forty years ago the first group of pioneers representing the then Standard Oil Company of New York landed in China with a new fuel called kerosene and began the development of what is today the world's most important market for that product.

Gasoline was never thought of in those days for any commercial purpose. Today there are 41,000 cars in China, 100,000 in Japan and half a million in Australia. The Fiji Islands boast more than a thousand automobiles. More than 17,000,000 bbl. (of 50 gals.) of motor fuel were sold in 1932 in what will now be the marketing branch of the Standard-Vacuum Oil Company.

As the business of Socony expanded in the three original markets of India, China and Japan, new territories were also being developed. On the accompanying map it will be seen that today the combined Far Eastern properties of the former Standard Oil Company of New York and Vacuum Oil Company extend over an area representing one-fourth of the earth's surface. About 54 percent of the entire population of the earth is concentrated in these thirty countries. Instead of merely kerosene a full line of petroleum products is marketed in Netherland India, Australia, Africa and the Asiatic countries today. The growth of the business led to the establishment of numerous godowns and native agencies and by far the greater part of the company's retail activity is carried on in that manner.

The Vacuum organization has likewise been skillful and understanding in building its Eastern personnel, and its red gargoyle trademark has long been a familiar symbol in the Orient.

The Vacuum Oil Company, Pty, Ltd., chief marketing unit of Socony-Vacuum in

Australia, is the largest petroleum organization in the Commonwealth. The company maintains large manufacturing plants at Melbourne, Sydney and Perth, numerous bulk installations and more than 9,000 curbside pumps. Forty years ago it was a tiny sales agency supplying lube oils for gold mining machinery.

In South Africa, the Vacuum organization has been an important factor in the development of gold, diamond and other mining fields as well as the country's vast agricultural sections. Explorers and leaders of scientific expeditions into the interior have often been amazed at the completeness of the company's service, even to its most remote customers.

Linking together these far-flung outposts of oil, the new Standard-Vacuum organization will have a large and diversified fleet, including tankers, barges, tugs and numerous Chinese junks and sampans. The company also has at its disposal two airplanes, 308 tank cars and more than a thousand motor vehicles.

The Far Eastern territory today has been divided roughly into six sectors which clear through home offices in Australia, Japan, China, India and South Africa, as follows:

MELBOURNE: Australia, New Zealand, Pacific Islands

YOKOHAMA: Japan proper, Korea, Formosa

SHANGHAI: North China, Manchukuo, Mongolia, Sinkiang, Tibet

HONG KONG: South China, Philippines, Indo-China, Siam, Netherland India, British Borneo, Federated Malay States

CALCUTTA: India, Burma, Ceylon, Afghanistan, Baluchistan, Nepal, Bhutan, Hadhramaut (Aden), Yemen, part of Oman

CAPE TOWN: Union of South Africa, Southwest Africa, Bechuanaland, Basuteland, Swaziland, Northern and Southern Rhodesia, Kenya, Uganda, Tanganyika, Zanzibar, Portuguese East Africa, Mauritius, Reunion, Madagascar, St. Helena, Ascension, Eritrea, Italian, French and British Somaliland, and Ethiopia (Abyssinia).

On the side of the New Jersey company, the Nederlandsche Koloniale Petroleum Maatschappij with its holdings in Netherland India, among others becomes a part of the new Far Eastern organization.

European staff houses by a palm-fringed beach in Netherland India. Courtesy Standard Oil Co. of N. J.

There are more than 5,000 islands in the Netherland India group, varying in size from the tips of submerged mountains to one that is three-quarters the size of the state of Texas. The most important members of the group are Java, Sumatra, Borneo, Madoera, Celebes and Dutch New Guinea. Were it possible to transplant these islands and lay them across the United States the tip of Sumatra would extend out into the Pacific around the California-Oregon state line and practically the entire area of New Guinea would lie in the Atlantic Ocean off the Carolinas, with others of the group scattered in between.

Into this countless maze of islands the N. K. P. M. came in 1912. For many years the going was pretty discouraging, and in 1920 the directors were nearly ready to dispose of the company's assets and abandon their efforts. In 1922, the luck turned. At a depth of 2,000 ft. below all previously known producing horizons a new well came in on the Talang-Akar concession in southern Sumatra, in a formation which for years had been considered hopeless as oil bearing sand. Within a year the field proved so promising that construction of a refinery and pipeline was decided upon.

Today the major producing operations of the N. K. P. M. are confined to the residency of Palembang in southern Sumatra, although two small fields have been developed in East Java. Wells have been drilled in accordance with the most advanced engineering practice, gas produced with the oil being processed to remove casinghead, after which the volume not needed for fuel in operating the lease is forced back into the sand. In this way the original pressure is maintained to a remarkable degree and it is expected that the major part of recoverable oil will be produced without pumping or gas lifting.

Wildcat operations in Netherland India are tedious and expensive. Exploratory well sites are usually in virgin jungle country so that before any work can start roads must be cut through the heavily tangled underbrush. Nevertheless, isolated wildcatting has been carried on by the company in Sumatra, Java, and Borneo.

The construction of a pipeline out of the field was a tremendous job, ranking in difficulties with the building of the Andean line through the jungles of Colombia.

Even before a length of pipe was laid the engineers had a difficulty to consider. The crude coming from the Talang-Akar wells, because of its high paraffin content, solidifies at relatively high temperatures. The drop of only a few degrees causes the oil to become sluggish to such an extent

Transportation by water buffalo in Borneo. Courtesy Standard Oil Co. of N. J.

that it cannot be pumped any distance. Even such a slight fall in the thermometer as from 79 deg. to 75 deg. would cause it to thicken so that it could not be handled through the pumps. Consequently it was necessary to construct the line above the record high water mark at all points—and wherever possible, to bury it below the surface of the ground.

In order to carry out this seemingly contradictory program, the engineers had to construct 50 kilometers of earthen dike through almost impassable jungle, build bridges and trestles through the swamps and over rivers. Ninety miles of double line, six and eight inches in diameter, were laid in this manner with the aid of caribou, water buffalo, native pack animals and coolie labor.

The destination of this steel highway through the jungle is the N. K. P. M. refinery at Soengei Gerong near Palembang, Sumatra. The company also operates a small refinery in Java, but the main plant is at Palembang.

Work was started in 1923 on the staggering job of erecting a refinery in the jungle. An area of 100 acres was cleared at the junction of the Komering and Moesi rivers, about 60 miles inland from the sea. On a foundation of filled-in sand and with the aid of piles sometimes 90 ft. long, a 3,000-bbl. refinery was completed by 1926. This has since been enlarged and modernized and today it has a capacity of 25,000 bbl. daily and occupies a site of 1,000 acres.

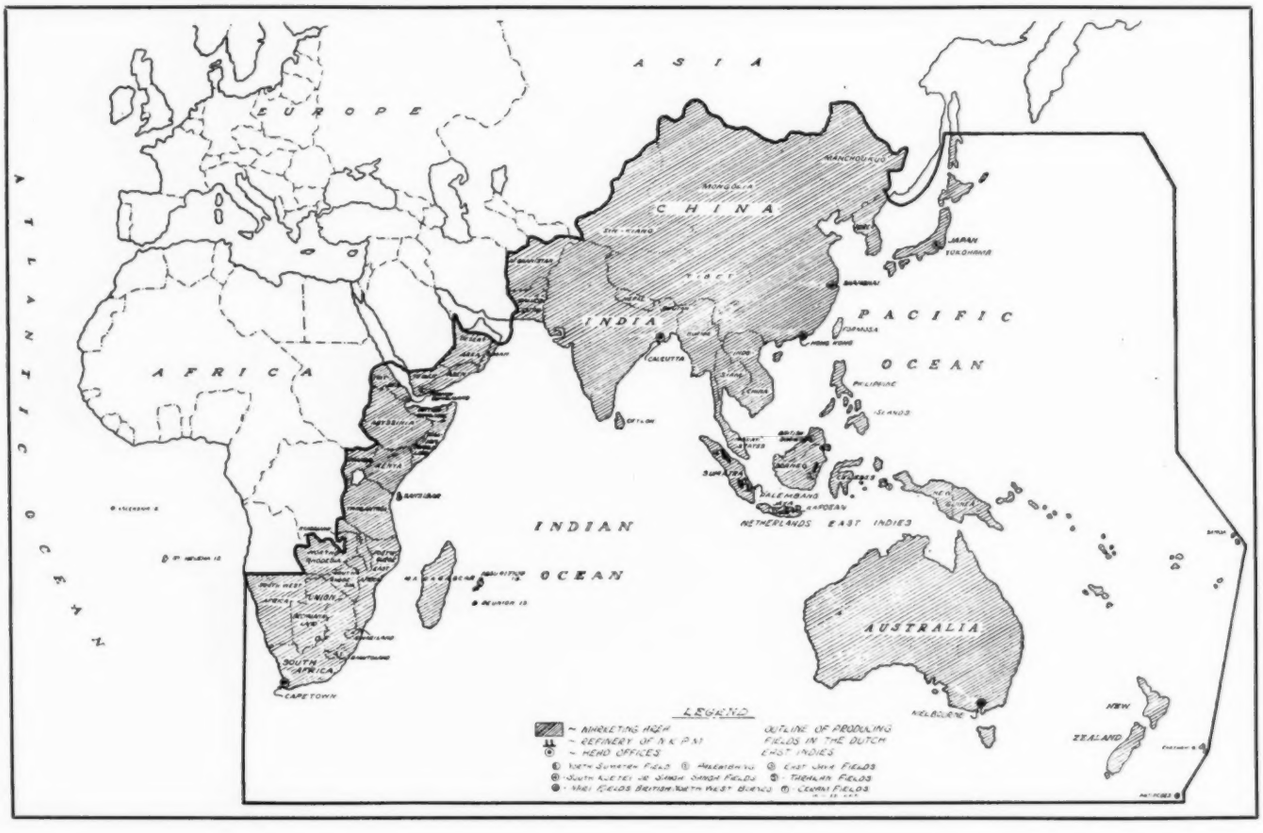
Talang-Akar crude, having stumped pipeline engineers on how to get it out of the field without the oil solidifying, next confronted refinery technicians with another puzzling problem. With a large percentage of paraffin it was found that the crude would not flow at ordinary temperatures. Even after cracking the fuel oil derived from it showed so high a pour test as to be unsatisfactory for bunker purposes. Gasoline produced from cracking such a highly paraffin stock had a marked tendency to knock in automobile engines.

In order to overcome these difficulties, a battery of vacuum pipe stills was installed and the crude reduced to a very low pitch bottom. In addition, a paraffin plant was constructed which not only turned out a considerable quantity of refined waxes but also enabled the company to produce a highly satisfactory cracked gasoline by removing the objectionable paraffin. Up-to-date cracking coils and other equipment permit intensive processing of the crude so as to obtain the maximum yields of marketable products.

Getting the oil into the Palembang refinery was not the only transportation problem with which the N. K. P. M. had to contend. It was also a job to get it out. At high tide 19 ft. is the maximum permissible draft at the mouth of the Moesi River—and tankers in the Far East draw approximately 30 ft. In order to get around this obstacle, the company constructed a bulk loading terminal at Tandjong Oeban on the island of Bintang, about 30 miles south of Singapore, which is equipped to load the largest tank steamers afloat.

In the past the N. K. P. M. vessels have been used to deliver products to the various ports in Netherland India, Malay States, Siam and China and also to transfer stocks from the refinery to the loading terminal at Bintang.

Involved in the Far Eastern Merger — producing properties in Talang-Akar and other Netherland India currently producing 25,000 bbl. daily; refinery capacity at Sumatra (25,000 bbl. daily) and at Java; marketing area of 30 countries with 54 percent of the world's population consuming 66,000,000 bbl. of products annually and operating over 1,398,500 automobiles served by Standard Vacuums' 16,865 agency operated curbside and portable pumps. Storage capacity approximates 15,000,000 bbl. and a fleet of 206 units transports the crude and products. Courtesy Standard Oil Co. of N. J.



World Oil Production—Official Figures for 1933 Revised

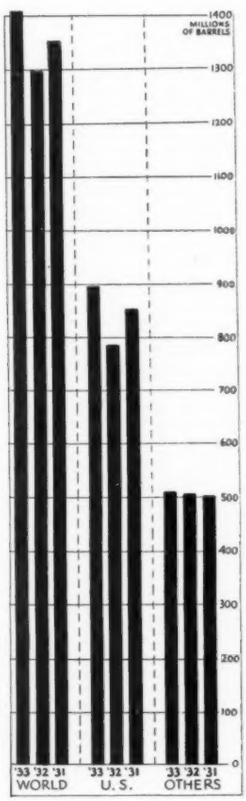
All figures furnished direct to WORLD PETROLEUM by Governments, except where otherwise specified

(Figures in U. S. Barrels—Conversion ratio 7 bbl.=1 ton)

Country	January 1933	February 1933	March 1933	April 1933	May 1933	June 1933	July 1933	August 1933	September 1933	October 1933	November 1933	December 1933
United States	63,998,000	61,029,000	75,302,000	65,313,000	84,747,000	82,841,000	84,387,000	85,239,000	78,186,000	76,017,000	69,755,000	72,060,000
Russia	10,382,400	10,162,600	11,003,300	11,824,400	12,794,600	12,489,400	11,837,000	13,402,200	14,340,200	14,595,000	13,479,200	12,591,600
Venezuela	8,750,000	9,985,711	10,324,328	9,340,870	9,380,893	9,354,387	10,197,425	10,367,511	10,231,410	10,852,653	10,843,910	11,253,704
Roumania	3,999,898	3,661,749	4,009,649	3,949,001	4,104,919	4,490,220	4,755,600	4,562,551	4,420,486	4,502,127	4,000,000	4,515,000
Persia[2]	3,563,112	2,929,668	3,683,386	3,984,519	4,370,835	4,452,000	4,648,000	4,669,000	4,109,000	4,549,867	4,199,797	4,422,096
Mexico	2,889,658	2,543,443	2,825,021	3,011,973	2,857,620	2,805,353	2,950,803	2,893,211	2,605,840	2,429,072	2,833,630	3,259,258
Netherland India	3,096,051	3,031,051	3,390,051	3,028,639	3,357,214	3,280,382	3,249,428	3,172,568	3,186,435	3,179,043	3,127,047	3,414,754
Colombia	1,005,353	1,035,273	1,218,626	1,093,410	1,169,238	1,113,328	1,189,655[4]	1,164,104[4]	1,085,885[4]	1,087,397[4]	999,253[4]	995,605[4]
Argentina	1,138,500	1,153,500	1,140,000	1,051,000	1,210,300	1,181,500	1,180,000[1]	1,180,000[1]	1,180,000[1]	1,180,000[1]	1,180,000[1]	1,180,000[1]
Peru	976,931	806,785	942,940	988,766	1,807,565	1,750,206	1,183,527	1,284,726	1,035,338[4]	970,427[4]	998,066[4]	1,178,004[4]
Trinidad	815,439	778,842	839,857	834,876	816,080	772,626	759,076	780,929	755,676	818,184	788,970	799,484
British India	732,894	669,617	761,302	708,703	729,669	741,244	700,000[1]	700,000[1]	700,000[1]	700,000[1]	700,000[1]	700,000[1]
Poland	338,100	299,845	329,224	318,619	326,900	326,830	336,553	332,934	315,000	320,000[1]	309,624	311,500
Sarawak	180,320	194,166	214,984	196,595	203,385	184,250	196,756	194,327	182,602	186,431	179,648	175,000[1]
Japan and Taiwan[1]	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000	195,000
Egypt	136,451	126,861	131,964	124,103	138,348	137,620	136,752	143,836	133,903	125,786	128,450	127,421
Ecuador	133,912	119,345	128,504	121,647	128,226	141,640	147,889	148,467	139,826	141,379	133,591	138,198
Canada	82,778	73,087	87,218	84,974	89,754	113,447	99,510	100,602	97,342	97,132	108,304	113,677
Germany[3]	130,732	121,835	141,183	129,591	134,666	130,200	141,414	153,174	155,778	160,951	157,808	155,491
Iraq[1]	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000	100,000
France[1]	46,000	46,000	46,000	46,000	46,000	46,000	46,000	46,000	46,000	46,000	46,000	46,000
Others[1]	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000	36,000
Total	102,727,529	99,099,378	116,850,537	106,481,686	128,744,212	126,682,633	128,473,388	130,866,140	123,237,721	122,289,449	114,299,298	117,667,792

[1] Estimate. [2] Anglo-Persian Oil Co. figures revised; fuel oil returned to the ground has been deducted. [3] Thuringia estimated 7,000 bbl.; official figure for Prussia. Sakhalin Russian included with Russia. Sakhalin Japanese included with Japan. [4] International Petroleum Company's figures.

Comparison of crude oil production in the United States, all other countries and total for the world during 1931, 1932 and 1933



Official Crude Oil Production Figures for 1931, 1932 and Preliminary Figures for 1933 (Revised)

(Barrels of 42 U. S. Gals.)

Country	Total 1931	Daily Average 1931	Total 1932	Daily Average 1932	Total 1933	Daily Average 1933
United States	851,081,000	2,331,729	785,159,000	2,145,243	898,874,000	2,462,670
Russia	156,342,900	428,336	149,719,000	409,070	148,901,900	407,950
Venezuela	120,343,104	329,707	119,596,512	326,766	120,882,802	331,186
Roumania	46,333,945	126,942	50,491,205	137,954	50,971,200	139,647
Persia	40,253,486	110,283	45,122,455	123,285	49,581,280	135,840
Mexico	33,038,853	90,517	32,802,285	89,624	33,904,882	92,890
Netherland India	32,818,346	89,913	39,584,027	108,153	38,512,663	105,516
Colombia	18,237,190	49,965	16,384,956	44,768	13,157,127	36,047
Argentina	11,709,759	32,081	13,166,900	35,975	13,954,800	38,232
Peru	10,102,116	27,677	9,899,266	26,026	13,923,281	38,146
Trinidad	9,743,763	26,695	10,023,780	27,387	9,560,039	26,192
British India	7,830,101	21,452	8,600,312	23,500	8,543,429	23,407
Poland	4,397,760	12,048	3,905,230	10,670	3,865,129	10,589
Sarawak	3,338,472	9,146	2,274,043	6,213	2,288,464	6,270
Japan and Taiwan	1,884,285	5,135	2,340,000	6,393	2,340,000	6,411
Egypt	1,845,938	5,057	1,742,370	4,760	1,591,495	4,360
Ecuador	1,750,633	4,796	1,573,857	4,300	1,622,624	4,446
Canada	1,583,339	4,337	1,054,373	2,880	1,147,825	3,144
Germany	1,778,602	4,873	1,824,019	4,983	1,712,823	4,692
Iraq	1,200,000	3,300	1,200,000	3,300	1,200,000	3,288
France	512,862	1,405	552,000	1,508	552,000	1,515
Others	338,700	930	432,000	1,180	432,000	1,184
Total	1,356,465,154	3,716,343	1,297,447,590	3,544,940	1,417,419,763	3,883,342

Flexible Pontoons Diminish Storage Tank Waste

Russian Engineer Produces Interesting Low-Cost Design. Bevelled Sides of Linked Floats Provide Flexibility of Contour, Giving a Simple, Economical and Fire-Proof Installation.

WITH the higher prices for crude and petroleum products now existing throughout the world, the matter of evaporation losses becomes of increasing importance, especially as the quantities of oil in storage tanks in most countries have been steadily increasing during recent years. According to reliable authorities on the subject, evaporation losses in the case of oil stored in ordinary closed tanks represents a substantial amount, running as high as 25 percent in exceptional instances, and frequently varying from seven to 12 percent.

Numerous devices have been produced to prevent losses, including floating-roofs; but up to the present time only one design of floating roof has met with world-wide adoption, namely the Wiggins, which is known to every oilfield man. Following exhaustive tests made some years ago, four Standard Oil engineers went on record that the "breathing bag," i.e., an improved gasholder, is the most effective form of waste prevention in storage; but the exacting and expensive construction has prevented any extensive adoption by the oil industry.

Among the problems facing designers of oil storage tanks of the loss-reducing types is the avoidance of evaporation should there be the least leak in the roof, and the loss of liquid through any rain pipe should the leak get larger. Another difficulty to be overcome is arranging the construction so that trained men are not necessary for the erection work. Thirdly, the value of the design is enhanced if it can be used with existing closed or open tanks. Finally, there is the matter of safety where fire is concerned.

WORLD PETROLEUM is enabled to place before its readers details of a comparatively new system for both old and new storage tanks, which has sufficient simplicity and low-cost features to justify careful investigation by the petroleum industry. Unfortunately, the designer, I. Afonin, a Russian engineer, died shortly after constructional licensees had been purchased by such organizations as the Bataafsche Petroleum Maatschappy (Royal Dutch-Shell) of the Hague; the German shipbuilding firm of Deutsche Werft of Hamburg, and Delattre and Frouard of Paris. But the inventor's name is being perpetuated by the company in Berlin now holding the licensing rights for the world, and patents have been granted in 15 of the principal oil producing and consuming countries of the world. A number of trial installations have already been made to which reference will be made later in this article. It is intended to grant further constitutional licenses.

The Afonin sealing-raft is so simple in design and construction that it is somewhat remarkable that it was not thought of earlier in the development of the oil industry. It consists of a number of welded steel cells, or pontoons, having bevelled sides and linked together by brass chains and floated on the liquid contents of the tank, covering 99 percent of the surface. As will be seen from the illustrations the outer pontoons are shaped to fit the inside walls of the tank and the outer edge is rounded, and so adapts itself to any uneven or irregular surface, such as rivet heads or concavities caused by changes in temperature or shifting of foundations. Each side of the pontoons that touches another is bevelled, and as the entire set is made to dimensions that are slightly larger overall than the inside diameter of the tank they are all in constant compression, forming an almost perfect seal.

The center sections have an area of 11¾

Diagram of the principle by which the bevelled edges of the pontoons keep the roof tight at all times.

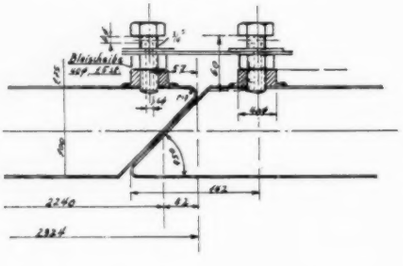
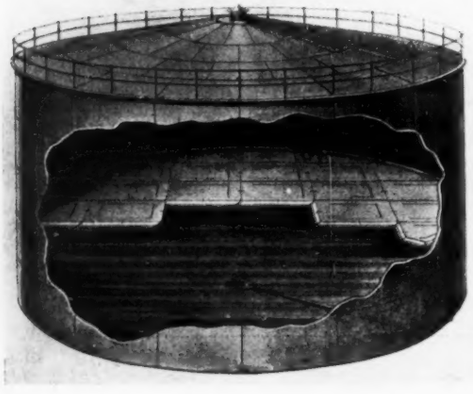
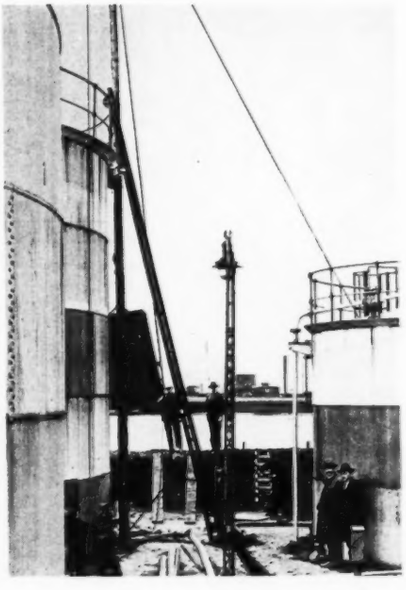
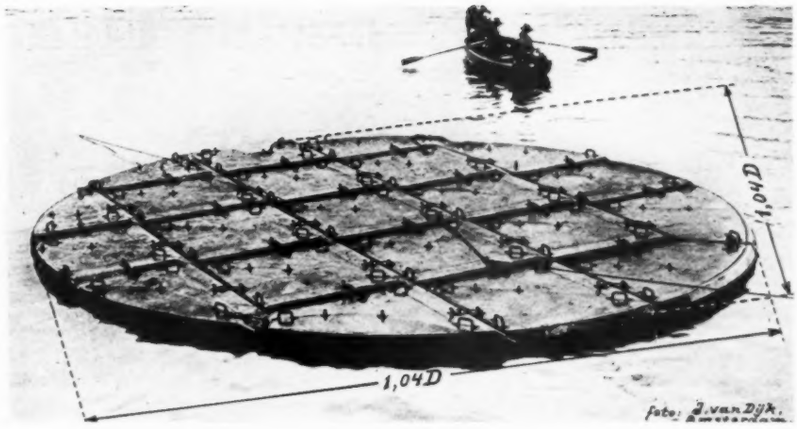


Diagram of the Afonin floating roof.





Placing an Afonin floating roof in place on a storage tank in use is a simple process.



Afonin roof undergoing floating test. Flexibility is obtained by bevelled edges of each section.

sq. yards and weigh about 770 lbs. each, and have the advantage from a manufacturing point of view that they can well be built in standardized units and are usable for any sized tank. The outer pontoons have a surface area of 5¾ sq. yards and weigh about 385 lbs. Two to five unskilled laborers can install the complete raft in a big tank in three to four days, as the work merely consists of hoisting the sections to a convenient orifice opened-up in the roof, lowering to the bottom of the tank, or floated on the oil contents of the tank if the tank is in use, and then fastening together with the small brass chains. Of course, in the latter case necessary precautions must be taken so far as fumes are concerned. As all pontoons are hollow they will float and bear the weight of two men without sinking, enabling the workman to walk all over the raft. Because of the bevelled sides no springs are required to make the raft press against the sides of the tank, or to keep the cells close together.

No limitations are imposed by the dimensions or form of a tank. The raft principle can be used with tanks of all types, open or closed, iron, steel, concrete or wood. Even if the existing roof rests on columns within the tank no obstacle is offered, nor do the movable swingpipe and other usual apparatus interfere with the raft. As the raft covers 99 percent of the surface only one percent is in direct contact with the air within the tank. In the event of fire the flames of burning gasoline or crude are so small that they can be put out with common extinguishers, with the result that the duration of a fire is of no consequence, as very little heat is developed. Consequently delay in putting out the fire will not increase the danger. At least, this is the claim of the designer, which is supported by tests made by the German State Institute for testing materials in Berlin, and by fire-chief Sepel of Berlin. Copies of these test reports have been submitted to WORLD PETROLEUM. No sections of the raft were deformed during the two hours fire test. Nor did neighboring tanks get hot.

Should a single cell leak the whole raft will not be affected, because the adjoining pontoons will keep the damaged section afloat until the tank is inspected and the defective part replaced. The saving effected by loss prevention is said to be sufficient to repay entirely the initial cost of the raft and its installation within one year. Tests have shown that with two rafts at the storage farm of the R.D.S. at Amsterdam evaporation was but half of those equipped with water sprays.

In a memorandum dealing with the use of the Afonin sealing raft written by one of the oil industry's outstanding technical men, namely,—W. g. J. de Brey, chief-engineer at The Hague of the Royal Dutch-Shell organization, Mr. de Brey writes as follows,—

"Two gasoline tanks with gastight roofs erected at the petroleum harbor at Amsterdam have been equipped with Afonin's sealing raft. Both tanks are of 9 meters diameter by 7.25 meters high, and have been in regular service, the first tank since December 1927 and the second tank since September 1928.

"From a mechanical point of view the floats have worked well. They move freely and smoothly up and down with the fluid, and the experience hitherto gained has shown that the mutual mobility of the cells has not caused sparks that could ignite the vapour mixture above the raft. When filling, emptying or measuring the liquid in the tank, the raft did not cause inconveniences.

"Careful measurements of the evaporation losses have, during the past months, been carried out and it has been found that the losses in consequence of manipulation and breathing have been reduced by 50 percent.

"It is to be stated that part of the surface around the swingpipe was not covered by the raft, and it may be assumed that the saving of 50 percent on the evaporation losses could be improved to a certain extent by omitting, or changing, the construction of the swingpipe so as to allow of covering the whole of the surface."

Among recent installations may be mentioned about half-a-dozen new tanks at the refinery of the Vacuum Oil Company just completed at Port Jerome; another installation by the same company in Italy; one owned by the Standard Oil Company of New York at Athens, Greece; another by the Compagnie Industrial Petroles at Algiers; others at Singapore and in Poland at Asiatic Petroleum Company tank farms.

Sections of the Afonin roof fit snugly together.

Cumarebo a High Grade Producing Field

Though Small in Area and in Volume of Output the Good Quality of Its Crude and Convenient Location Give it a Position of Economic Importance.

By N. O. Fanning

LYING IN the north central coastal area of Venezuela, in the state of Falcon, is Cumarebo, an oil field of unusual interest because of its special characteristics. Although not approaching the Maracaibo basin, or even the Quirequire district to the east, in volume of production, it occupies a place of economic importance among the petroleum resources of Venezuela because of the high quality of the oil produced. While the crude from most other major oil producing areas in Venezuela averages about 19 deg. Beaume, Cumarebo crude averages 49 deg. Beaume. It is of mixed base, being free from paraffin and otherwise ideally adapted to handling and refining. While the proven area, from present indications, probably will be relatively limited, it is, from the operating viewpoint, a very successful and desirable oil field.

The Cumarebo's oil deposits were discovered in 1931 after years of geological and development work along the coastal area of the state of Falcon, which previously resulted in only a few relatively unimportant producing areas. Wells in the El Mene and Uramaco fields to the west of Cumarebo have yielded some production of high grade oil, while to the east the El Mene de Acosta field has contributed a small quantity of good oil, but Cumarebo so far is the only producing field in this general area of major commercial significance.

The discovery well at Cumarebo was completed on April 24, 1931 and the field has been developed as a unit by the Standard Oil Company of Venezuela, subsidiary of Creole Petroleum Corporation, which company controls all the acreage in the general area of the field. Cumarebo, like Quirequire, also a Standard Oil operation, presents a picture of highly efficient and economic field development. Unlike Quirequire, which is almost buried in equatorial jungle, Cumarebo is in attractive agricultural country, rich in native vegetables, fruits and flowers. The field itself, although only about 3¼ miles from seaboard, is at an elevation of approximately 1,200 ft., and commands an excellent view of the Caribbean.

Standard Oil Company in the Cumarebo field, state of Falcon, Venezuela.

The economic importance of the field is heightened by the nearness to seaboard, where the largest oil tankers can load. The elevated location makes it possible to move the oil from the field into tankers practically all the way by gravity.

The Cumarebo field is also favorable from the viewpoint of drilling. There are no exceptionally hard formations. The chief problem is that of keeping the gas pressure back while drilling the wells. Very high pressures are encountered at shallow depths and special weighted mud has to be circulated through the drill stem. As in all fields of Venezuela, steel derricks are used at Cumarebo. Well depths in the field vary greatly, due to the large number of producing sands, five in all, which are at depths ranging from 600 to 2,800 ft. Ninety-six foot derricks are used.

A deep well which was drilled at Cumarebo in an effort to test the formations which were the real objective of the original well in the field was recently junked at a depth of over 4,000 ft. when the drill-stem encountered hard formations and went off center. The test was inconclusive and another will have to be drilled.

Repressuring by gas is employed at Cumarebo in order to obtain the maximum recovery of oil from the producing sands. At present about 50 percent of the gas is used, but additional compressor capacity is now under construction which will make possible the utilization of all the gas from the wells, meaning practically 100 percent efficiency.

Geologically, the Cumarebo oil field is producing from Oligocene formations, but the area is sharply folded and faulted. Producing sands are at depths of approximately 550, 725, 1000, 1400 and 1800 feet.

The oil is gathered from the wells and run to temporary storage tanks at the north end of the field by means of a single pumping unit and then gravitated to shore tankage. A second pumping unit forces the oil from this point to oil tankers in Cumarebo Bay through a 10 in. sea-loading line.

The Cumarebo oil field is now producing crude oil at the rate of about 12,500 bbl. daily and for 1933 output will reach a new annual peak of over 5,000,000 bbl. It is still a relatively small field, but in terms of the quantity of light products recovered from the crude and accessibility to markets, Cumarebo is of much greater importance among the oil fields of Venezuela than the actual production figures would indicate. The field is less than 60 miles by water from the Aruba oil refinery of the Standard Oil Co. of New Jersey.

Present indications are that the field has been fairly well defined and little new drilling will be done from now on. The present rate of production can probably be maintained for some time by the use of modern production methods.

▼

United States

	Daily Crude Oil Production bbl.	Daily Runs to Stills bbl.	Motor Fuel Stocks bbl.	Imports for week bbl.	California Shipm. East for week bbl.
Week Ending Jan. 20	2,363,500 449,500*	2,395,000	53,182,000	987,000	770,000
Week Ending Jan. 27	2,279,500 453,000*	2,360,000	53,401,000	659,000	380,000
Week Ending Feb. 3	2,175,500 447,000*	2,290,000	53,760,000	763,000	538,000
Week Ending Feb. 10	2,343,000 465,000*	2,375,000			

Underlined figures indicate improvement in statistical position—decrease in production, runs to stills, gasoline stocks and imports.

* Indicated reported production of the Rusk-Gregg field, East Texas. Unreported production in the Rusk-Gregg field is currently estimated around 40,000 bbl.

Exports and Imports

During December, 1933, total imports of all petroleum products into the United States increased to 3,962,000 bbl., 127,800 bbl. per day, as compared with 3,210,000 bbl., 107,000 bbl. per day, imported during the preceding month. Under the federal quota the imports are limited to 108,400 bbl. per day, thus during December, 1933, the quota was exceeded by 19,400 bbl. per day, but over the September–December period, inclusive, the imports averaged 106,000 bbl. per day, or 2,400 bbl. per day within the federal allowance.

On February 7 the Ways and Means Committee of the House of Representatives approved the Oil Administration's tax program voting to double the present import tax on crude oil, from 21 cents to 42 cents a barrel; but on the following day the Committee reconsidered its vote, thus at least temporarily defeating the movement for a higher levy. The agitation for doubling the import tax, even though unsuccessful, was responsible for a rush by the importers to bring into the United States a large volume of crude oil prior to the tax increase, such shipments increasing notably the imports for December and January.

Exports of all petroleum products, including motor fuel, in December, 1933, declined somewhat to 8,592,000 bbl., as compared with 9,655,000 bbl. exported in November, 1933; but were 26.8 percent above the total exports in December of 1932. Motor fuel exported during December, 1933, dropped to 1,649,000 bbl., as compared with 2,905,000 bbl. exported in November, 1933, a decline of 43.2 percent; and 15.57 percent under motor fuel exports in December of 1932. Exports of crude oil from the United States further declined to 2,709,000 bbl. during December, 1933, as compared with 3,305,000 bbl. exported in the preceding month, and 3,888,000 bbl. exported in October, 1933, and constituted 31.5 percent of the total exports of all petroleum products.

The United States dollar was officially stabilized on January 31, 1934, when President Roosevelt upon signing the Gold Reserve Bill proclaimed that the dollar will hereafter contain 15 5/21 grains of gold 9/10 fine, thus reducing the weight of gold in the dollar to 59.057 percent of its former content. The stabilization was, however, in no way permanent, the President stating that "notice is hereby given that I reserve the right by virtue of the authority vested in me to alter or modify this proclamation as the interest of the United States may seem to require." The United States dollar correspondingly declined on the foreign exchange markets, dropping in terms of gold francs from 63–64 to 60–61 percent of its former value.

Refinery Runs Again Excessive

Crude oil and natural gasoline production during January, 1934, averaged about 2,365,000 bbl. per day, 61,000 bbl. per day under the production for the preceding month; but still 205,000 bbl. per day in excess of crude oil and natural gasoline production during January of 1933. Crude oil and natural gasoline production continued at similarly high levels till the middle of February, thus exceeding the federal allowance by about 90,000 bbl. per day during the first two months

of 1934. Natural gasoline production in the United States approximates currently 95,000 bbl. per day, and is not included in the federal allowables.

Total stocks of all oils decreased by 3,926,000 bbl. during December, 1934, to a total of 601,-453,000 bbl. indicating a daily gross decline in stocks of 126,500 bbl.

The crude oil runs to stills which appeared to be under control late in December, 1933, and during the first half of January, 1934, increased alarmingly late in January and early in February, averaging 2,355,000 bbl. per day for the four weeks ending February 10, as compared with but 2,218,000 bbl. per day for the preceding three weeks ending January 13.

Motor Fuel Consumption 5.35 Percent Above 1932

INDICATED domestic demand for motor fuel during December, 1933, averaged 929,000 bbl. per day, a decline of 7.93 percent under the daily average during November, 1933; 47,200 bbl. per day above the domestic motor fuel consumption in December of 1932, an increase of 5.35 percent; but 52,800 bbl. per day under the domestic motor fuel consumption in December of 1931, the peak year, a decline of 5.37 percent. The domestic motor fuel demand thus indicated a very significant increase in consumption at the close of 1933, recovering about half of the ground lost in the Great Depression, a most favorable development. The NEW YORK TIMES weekly combined business index maintained the gains made after October-November, 1933, slump and stood at 78.4 in the week ending February 3, 1934; or at a level 12.2 points above the corresponding week of 1933. January and February, 1934, may not make as satisfactory a showing, as compared with the corresponding months of 1933, due to the unusually cold winter weather prevailing over the Eastern United States.

The daily rate of exports of motor fuel averaged 53,000 bbl. in December, 1933, 45.3 percent under the exports in the preceding month; 15.9 percent under the exports in December of 1932; and 38.9 percent under the exports in December of 1931.

Total daily demand for motor fuel in December, 1933, therefore was 982,000 bbl.; an increase of 2.85 percent as compared with the total daily demand in December of 1932; but 8.11 percent under December of 1931, the year in which motor fuel demand was at peak.

On January 1, 1934, motor fuel stocks at refineries, terminals and in transit amounted to 55,426,000 bbl., an increase of 1,869,000 bbl. as compared with stocks on hand on December 1, 1933, indicating that during December motor fuel supply exceeded demand by 60,200 bbl. per day.

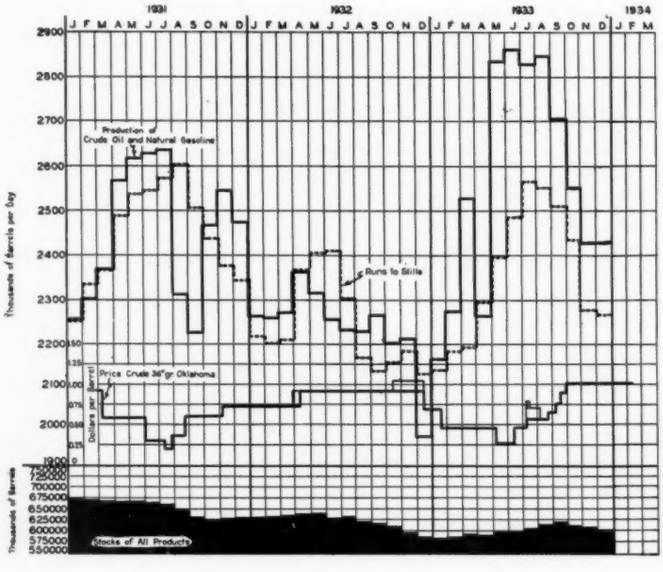
"Price Wars" Prevalent

DURING THE last half of January and first half of February the crude oil prices throughout the United States were maintained, while the motor fuel prices recovered all of the ground lost during the first half of January, but again showed signs of weakness around February 15. During the second half of January and the first half of February retail gasoline markets remained generally firm, but locally were upset by a number of price "wars." Most important price "war" flared up in Washington, D. C., where regular grades of motor fuel sold down to 12.0 cents a gallon, and where Secretary Ickes expressed an opinion that the federal oil administration appeared "really helpless" and that he did not "know how we can reach this situation except by an arbitrary fixing of prices." The unfavorable Washington developments, in actual sight of Secretary Ickes and of the various federal control agencies, will undoubtedly result in considerable increase of price cutting. Elsewhere in the United States the gasoline price "wars" reduced the price of motor fuel at service stations to around 15–16 cents per gallon in Newark, N. J.; Norfolk, Va.; Rochester, N. Y.; Philadelphia, Penna.; Wilmington, Del. (13.5 cents); Hartford and New Haven, Conn.; Providence, R. I.; Evansville, Ind.; St. Louis and St. Joseph, Mo.; Wichita, Kans.; Tulsa, Okla. (12 cents); Fort Worth, Texas (11 cents); and Fort Smith, Ark. Other price "wars" were threatening in a number of additional important localities by the middle of February. In the meanwhile other developments affecting motor fuel markets were definitely of an unfavorable nature thus apparently presaging further extension of low prices, and possibly a general price reduction unless federal control measures are promptly made enforceable. The increased crude oil production and runs to stills; the Texas federal court decision against the federal officers enforcing proration in the oil fields of the state; the extremely cold weather along the Atlantic seaboard and in the Great Lakes area; and the taxi cab strike in metropolitan New York are the more important current influences.

Service station prices per gallon for motor fuel, regular grade and including all taxes, in representative districts in the middle of February were: 17.0 cents in New York City (15.5 cents in Newark, N. J.); 17.3 cents in Chicago; 17.5 cents in Ohio; 19.0/19.5 cents in Los Angeles/San Francisco; 18.0 cents in Oklahoma (12.0 cents for third grade in Tulsa); 15.7 cents in St. Louis; and 27.0 cents in Montreal, Canada with 2-cent differential for the premium grade.

Refinery gasoline quotations in Mid-Continent districts regained the ½-cent per gallon drop of early January, and on February 15 refinery gasoline was quoted at 3⅞–4⅛ cents per gallon for 58–60 U.S.M. grade, 59.9 and below octane rating in Group 3, Oklahoma

U. S. production, runs to stills and price of crude oil in relation to stocks of all petroleum products.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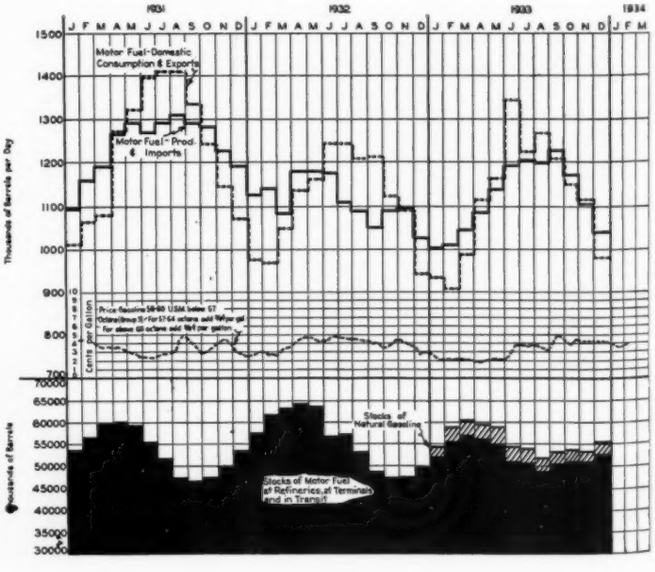
Stocks of All Products

U. S. consumption and exports, production, imports and prices of motor fuel in relation to motor fuel stocks.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Motor Fuel-Prod. & Imports
Cents per Gallon
Thousands of Barrels
Stocks of Natural Gasoline
Stocks of Motor Fuel at Refineries, at Terminals and in Transit

market; 60 to 64.9 octane rating, U.S.M., brought 4¾–4⅞ cents per gallon; and 65 and above octane rating, U.S.M., commanded 5–5⅛ cents per gallon. On the East Coast, at Bayonne, the U.S.M. grade, 60 to 64.9 octane rating, was quoted at 5¾ cents per gallon (3.39 cents gold *). Gulf Coast prices for export on February 15 were weaker at 4¾–4⅞ cents per gallon (2.81 cents gold *) for 58–60 U.S.M. grade.

Natural gasoline prices firmed up slightly under the influence of reported Russian inquiries and on February 15 were quoted at 2¾ cents a gallon (1.62 cents gold *) for grade 26–70 in Oklahoma and North Texas and at 3⅛–3¼ cents (1.89 cents gold *) in North Louisiana.

Kerosene prices remained unchanged from the preceding month and on February 15 grade 41–43 w.w. was quoted at 3¼–3½ cents a gallon in Group 3, Oklahoma market; and at 5¼–5½ cents a gallon (3.18 cents gold *) on the East Coast at Bayonne. Gulf Coast price for export also remained unchanged at 4⅛–4¼ cents per gallon (2.48 cents *) for 41–43 p.w. grade.

Prospects for the future course of prices for petroleum products depend very much upon the effectiveness of the National Petroleum Agency and effective federal and state control of crude oil production and runs to stills. Inasmuch as some time will be required to control production and runs to stills, if they are to be controlled at all, and to organize the purchase and storage of distress surplus gasoline by the National Petroleum Agency, a break in refinery gasoline and retail motor fuel prices may be anticipated during late February, or March, unless Federal Petroleum Administrator fixes definitely the prices, as was originally planned.

*U. S. dollar at 41 percent discount.

Crude Oil Prices

(Dollars per barrel)

		Effective Sept. 29, 1933	In Terms of Gold at 41% Discount
Oklahoma, North Texas and Kansas	28 deg.	U. S. $0.84	Gold $0.49½
	36 deg.	1.00	0.59
	40 deg.	1.08	0.63¾
East Texas—regular	flat	1.00	0.59
East Texas—illegal	flat	(estimated) 0.65	0.38½
West Texas	flat	70–75	41¼–44¼
Gulf Coast	25 deg.	0.94	0.55½
	30 deg.	1.04	0.61¼
	34 deg.	1.08–1.12	63¾–66
	40 deg. top	1.12–1.14	66–67¼
Conroe	36 deg.	1.11	0.65½
	40 deg. top	1.19	0.70
Gray County, Texas	40 deg. top	0.91	0.53¾
Smackover, Ark	flat	0.70	0.41¼
Rocky Mountains:			
Salt Creek	36 deg.	1.00	0.59
Elk Basin	flat	1.18	0.69½
Pennsylvania:			
Bradford Distr.	flat	2.45	1.45
Eureka Lines	flat	2.07	1.22
Mt. Pleasant, Michigan	flat	1.02	0.60
		Effective Sept. 6, 1933	
California:			
Santa Fe	34 deg.	1.19	0.70
Kettleman Hills	39 deg.	1.11	0.65½

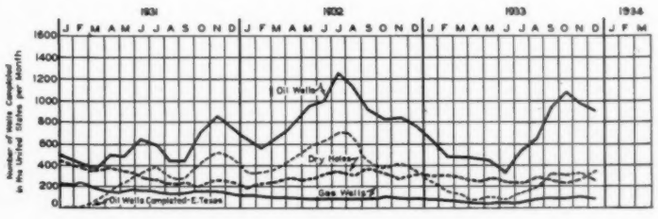
NRA Checked in Courts

THE LONG EXPECTED decision of the Three-Judge Federal Court in the Panama Refining Company and Amazon Refining Company case was announced in Sherman, Texas, on February 12. The court upheld the state oil production control by the Texas Railroad Commission, holding as valid the Commission's proration order of November, 1933, and denied the injunctions sought by the plaintiffs. The Three-Judge Court ruled, however, that it had no jurisdiction as to the validity of the NRA and the Petroleum Code, submitting those issues to Judge Randolph Bryant for a separate opinion. Judge Bryant ruled that the regulations of the Petroleum Code and Federal Petroleum Administrator were invalid as far as producing and refining operations within the states were concerned, thus very considerably upsetting the work done so far, and possibly greatly aggravating the position of the oil industry. A section of Judge Bryant's opinion held that penalties for violation of the Petroleum Code could not be assessed against companies which did not sign the Code and which operated only in intrastate commerce. Judge Bryant ruled that if the oil was illegally produced under state orders, the federal government may hold it from interstate commerce at the state lines.

The federal government is planning a direct immediate appeal to the Supreme Court of the United States against the adverse decision of Judge Randolph Bryant. The order of Judge Bryant is fundamentally based upon his statement that "such an invasion of the rights of the states is not permissible in our dual form of government," but the decision written by Chief Justice Hughes of the United States Supreme Court in the Minnesota case, reported in the preceding issue of WORLD PETROLEUM, gives grounds for the belief that the Supreme Court of the United States will overrule the decision of the lower court.

The decisions of the Three-Judge Federal Court and of Judge Bryant placed for the time being the full responsibility for the effectiveness of the Texas Railroad Commission's curtailment orders upon state authorities, more particularly so when Judge Bryant issued an injunction on February 15 perpetually restraining A. D. Ryan, agent of the Department of the Interior, his agents or his employes from demanding reports, going on the operators'

U. S. drilling; comparison of oil wells, dry holes, and gas wells.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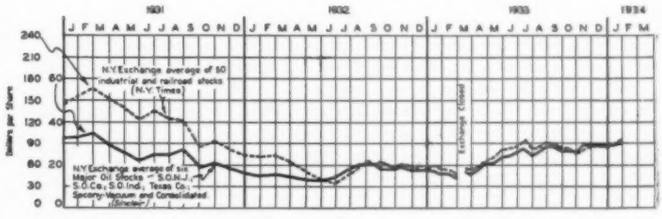
Number of Wells Completed in the United States per Month
Oil Wells
Dry Holes
Gas Wells
Oil Wells Completed-E. Texas

Six major oil stocks in relation to 50 industrial stocks on the New York Stock Exchange.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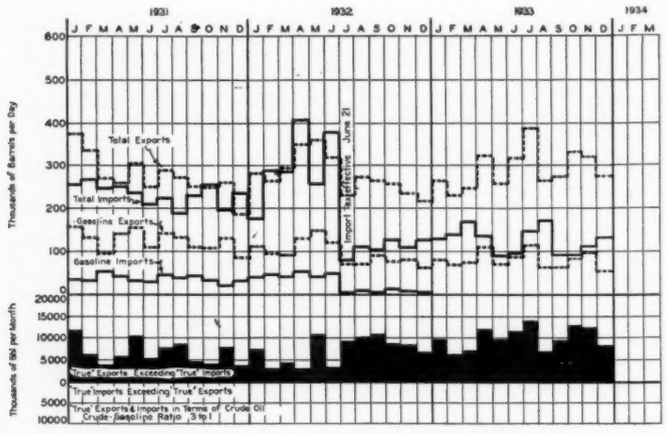
Dollars per Share
N.Y. Exchange average of 50 Industrial and railroad stocks (N.Y. Times)
N.Y. Exchange average of six Major Oil Stocks - S.O.N.J., S.O.Ca., S.O. Ind., Texas Co., Sperry-Vacuum and Consolidated (Bonbright)
Exchange Closed

properties and enforcing any rule or regulation in the cases of intrastate commerce.

A very unfortunate sequel to the adverse decision by Judge Bryant is the obliteration, even if temporary, of all efforts of the federal government made to date, which included the planned extensive grand jury investigation of the East Texas oil field, the actual employment of many agents, and the completion for trial of some fifty cases of violation of the Petroleum Code, mostly against excess production and refining of illegally produced oil. "Hot oil" production in the East Texas field continued at the rate of around 40,000 bbl. per day during the first half of February.


1931
1932
1933
1934
J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M
Thousands of Barrels per Day
Total Exports
Total Imports
Gasoline Exports
Gasoline Imports
Import Tax Effective June 21
Thousands of Bbl per Month
True Exports Exceeding True Imports
True Imports Exceeding True Exports
True Exports & Imports in Terms of Crude Oil
Crude-Gasoline Ratio 3 to 1

Total U. S. imports and exports and gasoline imports and exports in relation to true exports exceeding true imports.

Four Dallas, Texas, service station operators went on trial in Federal Court before Judge William H. Atwell on February 16 in the first court test of the constitutionality of the marketing section of the NRA Petroleum Code. The charges covered wage, hour and price provisions of the Code, to which the defendants pleaded not guilty.

On February 17, Judge Atwell ruled against the petroleum marketing code on the grounds that it could not apply to intrastate commerce. Judge Atwell dismissed the charges filed by special government prosecutors which alleged that the station operators had employed attendants more than 48 hours and paid them less than $14.50 weekly. In conclusion Judge Atwell held that, "my opinion is, without multiplying thoughts and reasons, that the regulations and the law sought to be applied under this information and bill of particulars are wholly without authority and are in violation of the well recognized and established guarantees of the citizen."

Federal Control Developments

ON FEBRUARY 1 Secretary Ickes revoked definitely the oil price fixing order of October 16, 1933, stating that the purchase and marketing agreements approved on January 19 make the original plan unnecessary.

Recent changes in the Petroleum Code include:

1. The assurance of adequate supplies of crude oil to small refiners by permitting them to withdraw from their storage or purchase from storage such oil as is necessary to make up the deficiency upon an application to the Planning and Coordination Committee, which is required to investigate all applications;

2. The requirement that reclaimed lubricating oils must show clearly that they were made from used oil.

Secretary Ickes proposed the inclusion in the new revenue bill of the Ways and Means Committee of a minimum production tax to be levied in equal amounts of $\frac{1}{10}$ of one cent per barrel at the well and at the refinery with the purpose of thus indirectly stopping the production and shipment of the illegal oil by bringing the offenders under the heavy penalties provided by the revenue laws.

The redrafted marketing practices agreement was submitted to Secretary Ickes, federal petroleum administrator, on February 10, placing in his hands the power to cut off petroleum supplies from any retailer or dealer violating the Petroleum Code; the original agreement provided for the same power to rest with the Planning and Coordination Committee, but Secretary Ickes removed this clause. The pooling agreement with few variations from its original form, after approval by all former signatories, will be re-submitted to Secretary Ickes for final sanction, immediately upon which National Petroleum Agency will be set up, will elect its officers and be ready for operations of purchasing, holding and disposing in orderly manner of distress surplus gasoline.

NRA Production Control

THE ENFORCEMENT of federal state allowables continued ineffective, with all principal producing oil states having an output considerably in excess of the federal quotas, the state of Kansas alone producing within its allowable. Quite apparently the present low winter season quotas are not enforceable at this time, but very likely the increased March and April allowables may be more easily adhered to by the producers.

Liberty County—Gulf Coast

THE VERY PROMISING Cleveland pool discovered last month by the Gulf Production Company (Gulf) No. 1 Kirby, as reported in detail in the February issue of WORLD PETROLEUM, apparently was due for a disappointment as the second well of the Gulf, No. C-2 Kirby, ⅓ of a mile south from No. 1 Kirby, drilled to 5,815 ft. without having encountered the sand producing in the discovery well at 5,716 ft., even though correlating on the Hockleyensis about 150 ft. higher structurally than the discovery. Also Brown and Wheeler No. 1 Foster Lumber Company, in A. Holhousen Survey, six miles due south from No. 1 Kirby, was abandoned at 6,575 ft. after topping Cockfield formation at 6,340 ft., but encountering no sands within the Cockfield.

Anderson County—East Texas

THE SECOND geophysical prospect of the Tide Water Oil Company and the Texas Seaboard Oil Company in Anderson County, near Cayuga, is proving favorable structural conditions, the first well No. 1 Fee, in Samuel Snider Survey, now drilling at around 4,000 ft. and correlating very satisfactory. The most im-

Effect of Federal Production Orders on Principal Oil Producing States

(in Barrels)

	Sept. 1933 to Jan. 1934 Cumulative Position	February Federal Quota	Daily Average Production per Week Ending	
			Feb. 3 (3 days)	Feb. 10
Texas [1]	over 3,092,000	884,000	939,500	953,500
	over 5,332,000*			
Oklahoma [2]	over 1,291,000	446,000	383,500	505,000
California [3]	over 2,341,000	437,600	436,000	469,000
Kansas [4]	over 58,000	110,000	108,500	106,000
United States	over 8,137,000	2,183,000	2,175,500	2,343,000
	over 10,377,000*			

[1] Texas overproduced 1,170,000 bbl. during January, 1934
[2] Oklahoma overproduced 830,000 bbl. during January, 1934
[3] California overproduced 610,000 bbl. during January, 1934
[4] Kansas overproduced 20,000 bbl. during January, 1934
* Includes estimated unreported illegal production in the East Texas field.

portant question, however, on this structure, as it was on the Long Lake Plantation geophysical prospect, is the sufficiency of the sand development within the Woodbine section, which was very thin and interbedded with shales in the Long Lake area.

Central Oklahoma

SPRINGROSE Drilling and Watchorn Oil and Gas Companies No. 1 R. J. Edwards in section 19-T11N-R1E, new Newalla, 12 miles east from Oklahoma City pool and in untested area encountered the Hunton limestone, a producing horizon of secondary importance, at 6,025 ft. and after drilling to 6,079 ft. produced little oil. The No. 1 Edwards correlates rather well structurally and may possibly lead to a discovery of major oil fields in an area of the state that was formerly overlooked, though the first test will very likely prove to be an edge well.

Stanolind Oil and Amerada Oil Companies' No. 1 Fonts in section 14-T17N-R1W, near Langston, a geophysical prospect drilled to 5,040 ft., and is currently standizing. Structurally No. 1 Fonts correlates well and is given more than an even chance to produce.

Michigan

THE POTENTIAL production of the Michigan oil fields was increased to 125,000 bbl. per day by completion of 32 producing oil wells during January, bringing the total number of oil wells in Michigan to 860, of which 135 in the Porter field account for 112,000 bbl. per day. The allowable of the state continued to be 29,000 bbl. per day, or 23.2 percent of the potential.

FROM California it has been reported that seven major companies and 18 independents operating on the Pacific Coast have signed the marketing cartel with the approval of Secretary Ickes and will divide the gasoline market between them in proportions to be determined.

BASIL B. ZAVOICO

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UNION SOVIET SOCIALIST REPUBLICS

	Crude Production (Bbl.)	Daily Average (Bbl.)	Run to Stills (Bbl.)	Drilling (feet)
Total 1933	148,901,900	407,950	131,591,300	2,789,523
Total 1932	149,725,500	409,086	142,110,082	2,436,318
Revised quota 1933	170,800,000	467,670	155,000,000	3,315,000
Revised quota 1934	214,900,000	588,876	193,400,000	7,260,000

Crude conversion ratio: 7 bbl.—1 ton.

M. BARINOFF, director and head of Glavneft, the division of the Commissariat of Heavy Industry that controls the entire domestic and export divisions of the Soviet oil industry, has recently reviewed the industry for the past year and considered the possibilities for the coming year. M. Barinoff reviewed in a manner that has become conventional the general progress of the oil industry mentioning again that the first Five Year Plan had been completed in two and a half years and that each year had brought great improvements and progress. He mentioned the 45 percent increase in the production of Baku from 1930 to 1933. Drilling has increased as has production from new wells. Refineries have been improved and increased runs to stills. The outturn of cracked gasoline and the productivity of labor (production per labor unit) have all increased—compared with 1930.

M. Barinoff speaks of the two new fields, Mikoyan and Azisbekoff, which have been added to the Baku group during the year just past. He reviews briefly the new producing horizons that have been uncovered in 1933. The new fields of Lok Batan, Sulutepe and the Island Artema have made important contributions to the production of 1933. The use of modern exploration instruments such as electrical and geophysical methods have succeeded in cutting more than in half the time required to make surveys of promising areas. Geological exploration at Baku, said M. Barinoff, has grown into a large and important enterprise, fully prepared to cope with the obstacles that it will be called upon to encounter in the second Piatiletka. The entire bed of the Caspian around the Apsheron Peninsula will have to be explored and a systematic survey put on record in the future.

M. Barinoff pointed out that the refineries of Baku had made notable progress which he took to indicate the results of the work done by the Central Committee of the Party (Communist) headed by J. Stalin, in breaking down resistance to the modern refinery machinery, much of which was constructed in Russia.

The Director of Glavneft then reviews the unfavorable developments at Grozni which have been stressed during the year. Causes of this position, however, had been uncovered by Com. Ordzonikidze in his report and steps have already been taken to correct this condition and during 1934 M. Barinoff expected Grozni to make up arrears developed in 1933.

In general, however, M. Barinoff recognized that drilling was still a weak point in all trusts. Ineptness in handling new types of drilling tools was delaying matters and the slowness with which the most modern practice in drilling was being accepted by the fields indicated that improvement in this division was only in its initial stages. The drilling program for 1933, stated M. Barinoff, was fulfilled only 63.2 percent and the most unsatisfactory showing occurred in the deep drilling division. The one bright spot in this division was the progress that had been made in straight hole drilling. M. Barinoff referred to the development of "gusher sentiment" which interfered seriously with installation of mechanized production. The administration of Azneft, he said, was over-centralized.

For the future all these faults would have to be corrected. Steps should be undertaken to decentralize the control of Azneft. The drilling division would have to be reconstructed to eliminate breakdowns and increase drilling speed. New methods would have to find wider acceptance. More rather than less attention would be required for geological exploration work. The refinery division would have to increase its capacity, and also eliminate losses by an increase in efficiency.

As to its ability to effect these corrections, M. Barinoff said, there is no doubt that the industry would be able to meet the quota for 1934 under the guidance of the Party headed by Stalin.

1934 in Baku

M. BARINOFF'S words had an immediate application to the situation at Baku. While the decrease in the tempo of operations that is presently noticeable in the Baku fields, may be traced in part to the extremely inclement weather, it is also true that satisfaction over the 1933 achievements is displaying a tendency to take the place of efforts to exceed this record in 1934. The workers at Azneft feel that they are entitled to some release from the tension that marked the last quarter of 1933. During the first half of January only 16 of the expected 46 wells were brought under operation. Some improvement, however, was noted during the second half of January and the early part of February. The regional Com-

mittee of the Azerbaijan Communist Party has surveyed the situation and has recommended specific steps for the improvement of operations.

Reorganization of Azneft

THE REORGANIZATION of Azneft has been practically completed and effects far-reaching changes in this important trust. In the first place Azneft loses a good deal of its administrative importance, a large part of its authority and responsibility having been delegated to central trusts that have been imposed over the entire industry.

What remains of Azneft has been divided into Azneft Crude Production Trust which includes all the fields in the group. These are: Stalin group, Director Machno; Ordzonikidze group, Director Bortz; Kiroff group, Director Sasanoff; Lenin group, Director Kriloff; Kaganovitch group, Director Salmanoff; Island Artema, Director Komladze; and Molotoff group, Director Geidaroff. In addition the production trust controls the machine shops, both electrical power plants, motor car repair shop, all field railroads and the railroad repair shop.

Second, into the Azneft Refining Trust which includes all the refining units, the cracking plants at Baku and Batum, all storage facilities, pipelines, the Montin machine shop, the Oxygene shop and the Neftstroi construction offices.

Third, into the Azneft Regional Exploration Trust which will control all exploratory work and will have an independent base, its own machine shops offices and laboratories for electrical exploration work.

All motor transport, depots, warehouses and individual training schools were divided between the newly created units. New bases have been established for supplies of food and equipment. The work of the Scientific Research Institute will be at the disposal of all units, its control having been taken over direct by Galvneft. Azneft Production Trust controls the Kapelushnikoff technical bureau and the Myasnikoff experimental laboratories.

Grozni

REORGANIZATION, or rather reconditioning of Grozni, has proceeded sufficiently far so that plans for 1934 are available. Crude production is planned at 43,400,000 bbl. of which 1,500,000 equivalent will be gas production and 7,000,000 bbl. will be derived from the Molgabek field. Over 25 percent of Grozni's 1934 production is expected to be derived from new oil regions, hitherto undeveloped. Not less than 100 wells will be drilled in Molgabek, comprising a total distance of 444,000 ft. Other new regions scheduled to produce 3,500,000 bbl. are Chechensk, Isberbash, Achi-Su and Eldarovo from which have come very favorable reports but no positive results from Achi-Su and Eldarovo as yet.

Grozni runs to stills are expected to be more than sufficient to tax the capacity of the Grozni and Tuapse plants with some crude for transportation to Baku refineries. Yield of light products is placed at 42 percent (a little less than double the yield hitherto). Molgabek crude (33.8 deg. A.P.I.) will be treated at Tuapse for export. The capacity of the Tuapse refineries is 35,000 bbl. per day but they already receive 7,000 to 10,000 bbl. of Maikop crude daily. A pipeline will be constructed from Molgabek to connect with the Grozni-Tuapse line at Mozdok. The Molgabek field has been completely electrified and drilling is expected to proceed more rapidly. Thirty wells were drilling on the first of the year but the weather was responsible for a delay in supplying additional equipment which held the 30 wells from further drilling.

J. WEGRIN

SHIPPING

London: March

PROPHETS are often vigorously discredited and when WORLD PETROLEUM in September last year forecast in a circular letter in no uncertain manner that a revival in the tankship constructing business was likely, it is not unfair to say that a large number of the recipients of these letters were sceptical. Time has proved that our prophecy was correct for the tankship situation to-day has again become one of the high spots in shipbuilding, but it has done so in a much more stable way than was the case before. There is none of the wild credit building of tramp tankers which characterized the previous boom. On the contrary the ships now under construction are mostly of liner type built for big oil companies to operate directly under their control and for specific purposes.

Thus the Anglo-Saxon programme is due partly to the obsolescence of old steam tankers, partly to the fact that the owners no longer wish to rely so much on chartered tonnage and partly because a number of charters was falling due for renewal and it was not proposed to renew them. With the Eagle Oil Company new construction is obviously necessary since this fleet has been allowed to fall into what may be termed almost a dangerous state of obsolescence—more construction therefore is likely to take place. The Standard of New Jersey is rumored by shipbuilders over here to be in the market for more ships of their largest type. The presence in London for some time of R. L. Hague has strengthened this point of view.

So far Great Britain has only been fortunate enough to receive one small ship which will run on the River Plate and which is similar in some ways to the MARACAY built by Harland and Wolff a few years ago for Andrew Weir for Maracaibo Lake service but later transferred to Plate service. She is a steam driven vessel and has been discussed already in these columns. The Anglo-Saxon Company will probably embark on another new programme before the end of the year and it will be interesting to see what improvements, if any, are incorporated in the already very advanced design. The present programme will not perhaps have been in service long enough for the improvements embodied therein over the previous programme to have been thoroughly tested out. British shipping men are watching the situation carefully and it is interesting, therefore, as a semi-official viewpoint to quote some succinct remarks from an article appearing recently in LLOYD'S LIST AND SHIPPING GAZETTE which is widely read at Lloyd's and on the Baltic.

This article is to the effect that the increased activity in tanker chartering has been maintained for a sufficiently long time to give confidence that the improvement is more than a passing phase. The broader demand is as yet reflected only in a decline in the laid-up tanker fleet, which it is calculated comprised about 180 vessels at the turn of the year, showing a decrease of about 50 percent from the worst point touched. The apparent size of the idle tanker fleet, the article continues, may even paint a darker picture than the position actually justifies. The reduction has been brought about mainly by re-absorption into employment, rather than by ship-breaking, and of the vessels still laid up many are non-competitive, as is shown by the fact that Norwegian owners have only four modern motorships laid up out of a total fleet of 181 tankers, while of the idle British tankers, numbering 58, eight are motorships. The writer continues that the unlikelihood of the uneconomical ship being put into service until rates are more attractive gives rise to the hope that the time may not now be far distant when it will be possible to operate tanker tonnage on a profitable basis. That the possibilities of an improvement are appreciated is evident from the recently placed orders of the oil companies, who doubtless are not influenced only by the present opportunity of being able to build at low prices. The

author considers that tramp tanker owners naturally regard the movement of the oil companies in ordering new tonnage as not helpful in the present state of the market. Nevertheless it may be as well to keep in mind that the tanker market in the past has been noteworthy for its extreme instability. Before the world depression took control, tanker owners enjoyed a constantly expanding demand for their carrying space and at fairly frequent intervals, as soon as any shortage was in sight, freights soared to unreasonable heights in a scramble for tonnage, which, of course, quickly brought numerous orders for the shipyards, and it was only a question of time before the market was again over-tonnaged. If the world depression is at last lifting (and there seems to be evidence pointing in that direction), then the expanding tendency of oil consumption may again be looked for, particularly as the industry's efforts to put its house in order appear to be making progress, which should help to dispell any anxiety in arranging forward commitments. This opens the question as to whether the existing supply of serviceable tanker tonnage will be adequate for the world's needs in the course of a year or two. To await a definite improvement in the freight market may mean a repetition of "boom and slump" conditions. On the other hand, a steady flow of orders to ensure a supply of new tonnage at the opportune time would tend towards more stable conditions in the freight market, to the advantage of the tanker owner, the oil industry, and the consumer.

A. C. HARDY

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Year's Performance of a Superheated Coastal Tanker

A COAL SAVING of some 760 tons per annum, which is considerably in excess of the guarantee figure, has been achieved by the coastwise tanker PASS OF LENY owned by the Bulk Oil Supply Company and fitted with North Eastern superheaters. This is an interesting indication of the way in which superheating of Scotch boilers with coal firing is of value in bringing ships in line with modern requirements of economy and may well be studied in conjunction with a group of figures analysing the performance of the ship and contrasting her with a non-superheated sistership over a period of twelve months.

The PASS OF LENY is a coastwise tanker with machinery aft. From some points of view she is unique in that she is coal fired, but the Bulk Oil Supply Company—who have without exaggeration, been termed the Carter Patersons of the British coastal oil world—find that with the type of labor obtainable and the ports they visit, coal firing can have a great many advantages. Some of the earlier ships of their fleet had saturated steam and Scotch boilers and reciprocating engines. The newer vessels have been built with superheated steam and most of the earlier ones are now converted. The fleet comprises a group of four ships varying between 815 and 915 tons deadweight and the coal is hand fired to the boilers, except in one case which is oil fired.

The vessels are essentially of weatherworthy type, an arrangement of hull rendered necessary by the severity of the weather through which they are occasionally called upon to pass in various parts of the North Sea and other British coastal trades. The table herewith compares the PASS OF LENY as a superheated ship with the PASS OF BALLATER, a saturated steam vessel. Figures are also given for another sistership, the PASS OF MELFORT, over a period of time as "saturated" and "superheated" respectively, the saturated period being from Jan. 1, 1933 to Oct. 3 and the superheated period from Oct. 22 when the vessel left the Works of the North Eastern Marine Eng. Co. to Dec. 30; the data is divided into 8 sections, covering performances respectively at sea, on rivers and canals, whilst discharging cargo, whilst raising steam, for the galley, for steaming tanks, when under repair and when lying up.

It is important to note that the superheated PASS OF LENY used 2979.7 tons in 50 weeks' trading and that the unsuperheated PASS OF BALLATER used 3505 tons in 45.15 weeks' trading, thus working out on a tons per week figure, at 59.6 and 77.9. Similar comparisons are not exactly possible between the PASS OF MELFORT superheated and unsuperheated, because the periods are different, but the coal figures in tons per week are exceedingly important for the LENY and BALLATER respectively because they do show that by superheating, owners have a real, positive and practical method of reducing their fuel consumption and therefore of bringing existing tonnage into line with latest trade route requirements.

The whole of the conversion work on this fleet from saturated steam to superheated steam has been carried out by the North Eastern Marine Eng. Company of Wallsend-on-Tyne, who are the leading specialists in superheating work.

Effect of Superheat on Boilers of Coal-Fired Coastwise Tanker

Fuel Consumed	Year 1933 "Pass of Leny" (superheated)	Year 1933 "Pass of Ballater" (saturated)	1 Jan. to 3 Oct. "Pass of Melfort" (saturated)	22 Oct. to 30 Dec. "Pass of Melfort" (superheated)
(a) At Sea	1998.3	2373.5	1556.4	265.5
Logged distance	48353	41336	29062	6853
Miles per ton fuel	24.22	17.45	18.62	25.9
Total hours	4921.65	4170.65	3121.7	769.9
Average speed	9.84	9.92	9.3	8.96
Consumption per 24 hrs.	9.74	13.65	12	8.3
(b) River and canal	607.12	598.5	454.1	71.9
Distance	6726	5281	3548	681
Miles per ton fuel	11.05	13	7.82	12.58
(c) Discharging cargo	88.35	201	192.9	48.25
Tons cargo by ship's steam	35360	45992	36463	8967
lbs. fuel per ton cargo	5.6	9.84	11.8	8.3
Total cargo discharged	63665	54898	42039	10562
% pumped by ship's steam	55.5	83.6	86	85
(d) Raising steam	228.5	205	161	37.75
Tons per week	4.75	4.54	4.6	4.2
(e) Galley	49	50	25.5	4.5
Ballasting	14.75	6	6.6	.75
Banked fired	....	19	4	....
(f) Steaming tanks	7	10	8.5	1
(g) Under repairs	....	39	1	2.75
(h) Lying up	1.5	4	9	....
Total fuel used	2979.77	3506	2419	445.4
No. of weeks (trading)	50	45.15	34.5	9.7
Tons per week	59.6	77.9	69.8	46.1
Repairs (days)	11	39.5	37.5	...
Unemployed (days)	3	8.5	11.25	5
In port (days)	103.25	61.25	77.75	19.5

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British Imports

THE upward trend of British petroleum imports continued in January showing improvement chiefly in kerosene and fuel oil imports. There was a considerable advance in the quantities brought in from Persia, particularly kerosene. The United States increased its shipments of all products to the United Kingdom during January.

Obviously the increased imports of kerosene

and fuel oil constitute a seasonal fluctuation. Increasing imports from the United States are accounted for by the fact that United States companies are now in a much better position to compete for European business since devaluation of the dollar puts them on or below parity with the pound sterling. Petroleum exporters in the United States are taking advantage of the exchange situation to dispose of surplus stocks through the only channel that government regulation has left entirely to their control.

British Imports By Products

	January 1934 (Barrels)	January 1933 (Barrels)
Lamp oil	746,743	457,313
Motor Spirit	2,426,914	2,374,883
Lubricating oil	270,057	231,688
Gas oil	249,000	276,797
Fuel oil	1,566,686	1,245,275
Other sorts	48,257	19,067
Total products	5,308,257	4,605,023
Crude	995,828	973,882
Total Imports	6,304,085	5,578,905

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Canada

Imports

CANADIAN imports of crude finished up 1933 with a flourish at 1,856,275 bbl. in December compared with 937,362 bbl. in the corresponding month in 1932, but were considerably down compared with November 1933 at 2,621,755 bbl. Total imports of crude for the calendar year 1933 were 27,268,353 bbl., valued at $20,290,580, compared with 25,423,964 bbl. valued at $26,310,278 in 1932.

Canadian Crude Oil Imports During December

United States	1,419,204
Colombia	114,855
Peru	322,216

Gasoline imports during the year showed a heavy decrease of 489,210 bbl. valued at $1,446,766 compared with 2,138,851 bbl. valued at $7,503,705 in 1932. During the month of December, 1933, importations of gasoline were 22,721 bbl. valued at $82,938 compared with 21,723 bbl. in November, and 53,138 bbl. in December, 1932.

General

THE CANADIAN government has issued the second edition of G. S. Hume's OIL AND GAS IN WESTERN CANADA. The author, who is in the service of the Geological Survey of Canada, has given many years of study to the occurrences of oil and gas in Western Canada, and his report is therefore an invaluable reference for all those interested in the oil occurrences of the western provinces of Canada. The work is published by the Geological Survey of Canada, Ottawa, Ontario.

Illustrative of the peculiar balance that exists in economic affairs, it might be pointed out that extraordinary climatic conditions, involving heavy snow-storms and blizzards throughout eastern Canada, have dislocated very seriously highway transportation. Automobiles are being very little used outside of cities and towns, and truck haulage from point to point has practically ceased in those areas affected by the abnormal weather conditions. Gasoline sales have, naturally, been affected under these circumstances, and the results will probably show in the final sales figures of the oil companies. On the other hand, railways are feeling the benefit, and increased passenger and freight traffic are reported from both the major railroads.

R. C. ROWE

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FINANCE

London: February

AFTER conforming for some weeks to the general trend of London Stock Exchange quotations, oil shares have developed an independent tendency since the middle of January by advancing strongly while most other markets were quiet. As usual, events in the United States have been entirely responsible for the improvement. The rise started after the announcement that the United States oil marketing agreement had been approved by the Oil Code Administrator and the news that the Code had been endorsed by the Independent Petroleum Association. This was interpreted as a further major step in bringing the American industry under complete control, and was just what the market wanted to give it a public following. Continuance of United States production above that provided under the Code was therefore ignored, and possibilities were envisaged of a better trend of European prices for petroleum products. Dealers again began to discuss the prospects of an advance in the price of motor spirit in the British market. The share market subsequently became quieter, and prices fell back from the highest points touched. A fresh advance in quotations is expected by many dealers if news from America continues favourable. Steps to link the dollar to gold had no general effect on share prices in view of the uncertainty as to their ultimate reaction on European petroleum values and on the Ameri-

London Stock Exchange Prices

1934 High	1934 Low	Last Year's Div. % per Ann.	Share	January 13–February 5 First	High	Low	Last	Change
1 3/16	1 1/16	3 1/2	Anglo-Ecuadorian	1 1/16	1 3/16	1 1/16		+1/16
1 11/16	1 5/8	10	Anglo-Egyptian "B"	1 21/32	1 11/16	1 5/8	1 5/8	−1/32
2 5/8	2 11/32	7 1/2	Anglo-Persian	2 3/8	2 5/8	2 5/8	2 15/32	+3/32
1 15/32	1 11/32	35	Apex Trinidad (5s.)	1 15/32	1 15/32	1 11/32†	1 11/32†	−1/8
1 1/16	9/16	....	Attock	19/32	1 1/16	9/16	2 1/32	+1/16
9/16	1 5/32	7 1/2	Brit. Borneo (6s.)	1/2	9/16	1/2	1/2	.....
3/16	3/16	....	Brit. Burmah (8s.)	3/16	3/16	3/16	3/16	.....
9/32	1/4	....	Brit. Controlled ($5)	1/4	9/32	1/4	9/32	+1/32
1 1/16	1 9/32	....	Brit. Controlled Pfd. ($5)	19/32	1 1/16	1 9/32	2 1/32	+1/16
4 9/16	4 3/4	20	Burmah	4 7/16	4 9/16	4 7/16	4 15/32	+1/32
5/16	3/8	....	Canadian Eagle (No par)	13/32	7/16	13/32	13/32	.....
1/4	3/16	....	Kern River (10s.)	7/32	1/4	7/32	1/4	+1/32
2 1/2	2 3/16	12 1/2	Lobitos	2 1/4	2 1/2	2 1/4	2 13/32	+5/32
4 1/4	4 1/4	14‖	London and Thames Haven	4 3/16	4 3/16	4 1/8	4 1/4	−1/16
5/8	17/32	....	Mexican Eagle ($4 Mex.)	9/16	5/8	9/16	9/16	.....
1 1/16	1 9/32	2 1/2	Phoenix	19/32	1 1/16	19/32	2 1/32	+1/16
23 3/8	21 9/16	6	Royal Dutch (fl. 100)	21 11/16	23 3/8	21 5/8	23 3/8	†1 1/16
2 3/4	2 1/4	7 1/2	*Shell Transport	2 3/16	2 3/4	2 9/16	2 23/32	+5/32
11 3/8	7 3/4	....	Shell Union (No par)	8 5/8	11 3/8	8 5/8	11 3/8	+2 1/2
5/8	9/16	6	Steaua Romana	19/32	5/8	19/32	19/32	.....
3 3/4	3 7/16	15	Trinidad Leasehold	3 15/32	3 3/4	3 15/32	3 5/8	+5/32
1 1/32	9/32	....	Untd. Brit. of Trinidad (6s. 8d.)	5/16	1 1/32	5/16	5/16	.....
1 15/16	1 11/16	12 1/2	Venezuelan Oil Concessions	1 13/16	1 15/16	1 11/16	1 13/16	+1/8

Nominal value of shares £1 unless otherwise stated by bracketed figures.
* Denotes Tax-free dividend. † Denotes "Ex-dividend" price.
‖ 10 percent dividend tax free plus 4 percent bonus less tax.

can industry. Fresh fears for the gold standard in Holland, however, were responsible for a demand from that country for Royal Dutch. Buying was evidently inspired by a preference for a sound equity holding instead of guilders.

LONDON share quotations, although reflecting the change for the better in the outlook in the United States, have advanced neither so fast nor so far as their counterparts in Wall Street. A striking example of the difference between the two markets is provided by a comparison of the rise in the London quotation for Shell Union with that of leading British counters. Between January 13 and February 5 Shell Union, with a London price based on the New York equivalent, varied between 11⅜ and 8⅝, a variation of 2¾, or 31.9 percent on the low for the period. The following table shows concurrent percentage fluctuations in leading London issues, calculated on the same basis.

Variation in Leading London Stocks, Jan. 13–Feb. 5

Share	High.	Low.	Variation.	Variation percent.
Anglo-Persian.....	2⅝	2⅜	¼	10.5
Burmah.....	4⅝₁₆	4⅞₁₆	⅛	2.8
Lobitos.....	2½	2¼	¼	11.1
Shell Transport....	2¾	2⅝₁₆	5/16	7.3
Trinidad Leasehold.	3⅜	3¹⁵/₃₂	9/32	8.1

In comparing these relatively small price movements with the big fluctuation of Shell Union, allowance has to be made for the effect on the price of the latter produced by the directors' proposal to acquire the company's preference stock for repayment. The wide fluctuation in the shares is nevertheless typical of the general tendency of oil shares in New York to move much more readily than those with a major market in London. Differences in this respect are partly due to the strong and immediate influence which changes in the fortunes of the industry have on the earnings of American undertakings. Moreover, London's closer touch with European bourses is a factor tending to limit wide fluctuations in this market. Since, however, the New York tendency to wider fluctuations extends to other securities than oil shares it must also be attributed in part to difference between stock market organization in London and New York.

USUALLY a very quiet market, Petroleum Storage and Finance shares have developed striking activity during recent weeks. The £1 cumulative participating ordinary shares, which carry arrears of dividend at 8 percent from May 1931, have risen from 1 to 1¼, while the deferred shares of one shilling each have practically doubled in price to 3/16. Attention was first attracted to the shares by the publication of the annual accounts, showing a profit of £134,113 for the year to October 31, 1933, after providing for losses on exchange and allocating £40,732 to depreciation. For the previous year there was a loss of £19,469. Repayment of allowances previously received under a supply agreement called for £81,265 of the past year's profit, leaving a net figure of £52,848, which reduced the debit at profit and loss account to £85,641. Against this the company has a reserve fund of £225,000. Interest in the shares was further stimulated by the announcement at the meeting that the company, in conjunction with the Distillers Company, is shortly to put on the market a new alcohol-petrol spirit under the name of "Cleveland Discol," in addition to the Cleveland motor spirit which it has marketed up to the present. Petroleum Storage and Finance is now controlled by Standard Oil (N. J.) through Pan American Foreign Corporation.

ANOTHER company which has been receiving attention in the share market is Trinidad Central Oilfields, the £1 shares of which have risen from about ¼ to 7/16 since the beginning of January. A year ago they were standing at 3/32. Unconfirmed reports have been current that new finds of a promising character have been made on the company's Guapo area in Trinidad. The chairman of the company told shareholders at the annual meeting last October that arrangements for drilling this area had been practically completed with Trinidad Leaseholds, on the basis of the latter concern receiving a share of any production obtained. Although moderately successful immediately after its formation in 1917, the Trinidad Central company has been out of the dividend list since 1920, when 10 percent was paid. Liquid assets at the end of 1932 were shown in the accounts at nearly £39,000, largely in government securities and cash. It has been suggested in the market that a fusion between Trinidad Leaseholds and Trinidad Central would be a logical outcome of success with the new drilling programme, and this has increased activity in the shares of the latter, although there is no official ground whatever for such a suggestion.

ALEC H. DAY

New York: February

EARLY in February stock prices reached a peak in the sharp and steady advance which had been under way since the second week of January. The rather sharp decline of the second week of last month appeared to have been brought about by profit taking and other liquidation induced by psychological influences bearing upon the market itself rather than by any fundamental change in the economic status and outlook of the country. The disturbances in France and the uncertainty as to whether the franc could be maintained on its gold basis, together with the threat of severe restriction of stock exchange activity through legislation like the proposed Fletcher bill, created a strong feeling of uncertainty among speculators and investors which found the technical position of the market somewhat weakened by the previous sharp advance.

General indications of business trends continue highly favorable with the automotive industry rapidly stepping up production to a point which promises an output for the first quarter of over 700,000 units, and with steel operations advancing to 40 percent of capacity in the week ended February 17, representing a 33 percent advance over the 30 percent rate which prevailed in the first two weeks of the year. The federal government completed its second important financing operation of the current year with the offering on February 14 of $800,000,000 in two series of treasury notes maturing in 22 months and three years respectively. As in the case of the $1,000,000,000 of offerings in January, these notes were heavily over-subscribed and the administration has made an auspicious beginning in its financing program which is expected to total $10,000,000,000 before the end of June.

The oil industry continues to be handicapped by difficulties of enforcing proration regulations, particularly in East Texas, which has been the most troublesome spot in the crude oil picture during the past three years. Nevertheless, crude oil prices have been generally maintained at the average of close to $1.20 per barrel which was reached last September and such declines as have appeared in the gasoline market have not been of greater significance or extent than might normally be expected during the winter season due to the slack demand for motor fuel. Gasoline consumption, however, is running several percent ahead of last year. The oil shares participated in the February reaction to a moderate extent, but as indicated in our tabulation, stood at the low point on February 10, which was at levels slightly above the close of our last month's table. The administration is making unremitting efforts in cooperation with the greater part of the industry to make the oil code effective, and it is expected that the new agreements covering marketing and pooling of surplus gasoline stocks will be of constructive help during the coming year. With this background and the prospect that consumption will expand further, it would appear that the outlook for the industry may be viewed with optimism.

CONCRETE EVIDENCE that the oil industry is more favorably situated than last year at this time is afforded by the action of directors of Consolidated Oil Corporation in declaring a dividend on the common stock of 28 cents per share, payable April 7 to stockholders of record March 10. The dividend will amount to approximately $4,000,000 since there are some 14,200,000 shares outstanding, and will represent the first distribution on the common stock of this corporation which was formed in 1932 as a merger of Sinclair Consolidated Oil, Prairie Pipe Line and Prairie Oil and Gas. The payment is not to be construed as establishing any regular dividend rate inasmuch as it is the intention of the directors to declare another dividend in August and a final dividend after the net earnings for 1934 have been determined so that the total distribution to stockholders will approximate the 1934 earnings. The corporation plans to retire approximately $5,000,000 of its 7 percent bonds

New York Stock Prices

1934 High	1934 Low	Current Div. $ per Annum	Stock (Par Value $)	Jan. 22–Feb. 10 Sales (Shares)	First	High	Low	Last	Net Change[1]
50⅜	41½	2.00	Amerada (No)	31,900	45¾	50⅜	45¾	48	+2
35¼	28¼	1.00	Atlantic Refining (25)	167,700	31⅞	35¼	31½	32½	+ ⅝
10	7¾	....	Barnsdall (5)	170,400	9⅝	10	8⅜	9	− ⅜
3¼	1¼	....	Colon Oil (No)	22,200	2¼	3¼	1¾	2¼	....
14¼	9¾	♯0.28	Consol Oil (No)	570,100	11⅝	14⅛	11⅜	13¼	+ 1¾
20¾	16½	....	Continental Oil (5)	244,100	18⅝	20¾	18⅛	18¾	....
13	9⅝	....	Creole Petroleum (5)	160,400	11¾	13	10¾	12	+ ¼
76¾	58⅛	....	Gulf Oil Corp. (25)	43,800	71⅝	76¾	67	70	− 1½
41	33¼	**	Humble Oil & Ref. (No)	68,800	39	41	37½	39¾	+ ⅞
14¼	12⅝	0.50	Imperial Oil, Ltd. (No)	50,400	13⅜	14¼	13⅛	13⅜	+ ⅛
23⅜	19⅜	§1.12	International Petr. (No)	89,400	21½	23⅜	21	22	+ ⅝
14¾	11⅝	....	Mid-Continent (No)	52,200	13¼	14¾	12⅜	13⅜	+ ⅜
15⅞	12⅝	....	Ohio Oil (No)	172,500	14½	15⅞	13½	14	− ½
18¾	15⅛	1.00	Phillips Petr. (No)	214,400	16⅞	18¾	16¼	16⅞	....
14¼	10⅛	....	Pure Oil (25)	163,900	12⅜	14¼	11⅞	12½	+ ⅜
38¾	36	†6%	Royal Dutch N. Y. (13⅓)	6,000	37¼	38¾	37¼	38	+ ½
35	25⅜	0.60	Seaboard Oil (No)	56,100	31⅜	35	29½	30½	− 1¼
11½	7⅞	....	Shell Union (No)	203,900	9⅜	11½	9¼	10⅜	+ 1⅛
11¼	9	‡0.25	Simms Petr. (10)	18,400	10¼	11¼	10	10	....
11½	7⅞	....	Skelly Oil (25)	27,200	9	11½	9	10	+ 1⅜
19⅞	15⅛	‡0.15	Socony-Vacuum (25)	575,600	16⅞	19⅞	16⅝	17¾	+ ⅞
42⅞	37½	1.00	Standard Oil of Calif. (No)	129,500	41½	42⅞	39½	40	− 1⅛
32¾	31⅛	1.00	Standard Oil, Ind. (25)	111,000	32	32¾	31⅛	31¼	− 1
38	34	2.00	Standard Oil, Kansas (25)	1,900	36⅝	37½	34	34	− 2¼
17⅝	14⅝	1.00	Standard Oil, Ky. (10)	23,400	16½	17⅝	16	16⅜	− ¼
49⅜	44¼	1.00	Standard Oil, N. J. (25)	194,800	46¼	49⅜	46¼	47⅜	+ 1¼
61¼	51½	*1.00	Sun Oil (No)	14,100	56½	61¼	56	58½	+ 2½
29⅜	23⅛	1.00	Texas Corp. (25)	139,000	26¾	29⅜	26	26¾	+ ¼
11¾	8½	....	Tide Water Assoc. (No)	161,000	10⅛	11¾	10	10⅜	+ ¼
20½	18¼	1.00	Union Oil of Calif. (25)	62,000	19⅜	20½	18½	18½	− 1
1	9⁄16	....	Venezuelan Petr. (5)	4,300	9⁄16	1	9⁄16	¾	+ ⅛

[1] Since close of last month's table. † Paid for 1932—no regular rate.
* Also paid 9% in stock for 1933.
** No dividend yet declared on new stock.
§ Payable in Canadian funds.
♯ Initial dividend payable April 7.
‡ Paid so far this year.

out of a total funded debt of approximately $48,000,000, but the actual date of such action has not been specified. Mr. Sinclair, chairman of the executive committee, stated that operations were in the black all of last year following June and that the final six months more than made up for the substantial loss sustained in the first half year. The profit for the year, however, was less than the dividend of 28 cents per share which has just been declared.

SUN OIL COMPANY indicates in its preliminary report a 1933 net income of $6,972,000 after all charges, equivalent after preferred dividends to $4.04 a share on the 1,577,000, no par common shares outstanding prior to the 9 percent stock dividend paid last December. In 1932 the net profit was $4,198,000, or $2.35 a share, on a slightly smaller number of shares outstanding prior to the stock dividend of December, 1932. The second half year was much more profitable than the first half and also than the second half of 1932, having yielded $3.51 a share compared with 53 cents a share in the first half of 1933 and $1.22 per share in the second half of 1932.

IT IS UNDERSTOOD that Standard Oil Company of California has presented a new proposal for reorganization of Richfield Oil and Pan American Petroleum to supersede the previous offer which expired December 25, 1933. The three protective committees, representing Richfield Oil Company bondholders, the Pan American Petroleum Company bondholders and the Richfield unsecured creditors, find the plan acceptable and are engaged in making the necessary arrangements for presenting it to the various creditors and to the Court for approval and execution. Details have not been announced but it has been suggested that it will obviate issuance by Standard of California of new securities, as under the old plan, and will thus avoid the necessity of registration of new securities with the Federal Trade Commission under the terms of the new Securities Act.

THE PRELIMINARY report of Atlantic Refining Company shows consolidated net profits for 1933 of $6,556,000 after all charges and including $1,320,000 non-recurring profit received from sale of the company's half interest in Union Atlantic Company, the Australian and New Zealand marketing subsidiary which had been jointly owned by this company and Union Oil Company of California. The net profit for the year including this item amounted to $2.46 a share on the 2,665,000 shares of $25 par capital stock outstanding, representing a substantial improvement over the 1932 net of $3,918,000 or $1.45 per share.

UNION OIL COMPANY of California reports consolidated net earnings for 1933 of $1,954,000 after all charges, equal to 45 cents a share on 4,386,000 shares outstanding, compared with 1932 net income of $3,211,000, or 73 cents per share. The 1933 earnings included a non-recurring profit similar to the one referred to above in the Atlantic Refining report.

IT IS ANNOUNCED that Humble Oil and Refining Company, a subsidiary of Standard Oil Company (New Jersey), earned in 1933 approximately $2.40 per share on the present capitalization of 9,000,000 shares, which would compare with 1932 net of $5.01 per share on approximately 3,000,000 shares which were then outstanding and which have since been split on a three-for-one basis. On the basis of the present outstanding shares the 1932 net would be equivalent to $1.67 per share, which by comparison with the $2.40 a share of last year indicates a 40 percent improvement in earnings last year. During 1933 Humble made capital expenditures of approximately $30,000,000, of which about $10,000,000 was used for the acquisition of producing properties and undeveloped leases for the purpose of strengthening the company's position with respect to reserves. Crude oil produced during the year by the company totaled 45,002,000 bbl. of which Humble's share was 34,982,000 bbl. valued at $20,956,000. In addition to oil produced by the company, it purchased during the year 67,255,000 bbl. from other oil producers; its refineries consumed 35,000,000 bbl.

ON FEBRUARY 1 a special meeting of stockholders of Shell Union Oil Corporation approved an amendment to the certificate of incorporation empowering the corporation in the discretion of directors to acquire shares of the 5½ percent cumulative preferred stock out of capital for retirement. There are 400,000 shares of this preferred stock of $100 par value outstanding which had accumulated back dividends of 13¾ percent as of January 1 of this year.

C. C. BAILEY